

GENERAL PLAN

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PREFACE

The 1994 Update of the Milpitas General Plan is aimed at reorganizing the text and diagrams of the current General Plan to produce a clear, readable and more reader-friendly General Plan. The General Plan, as amended to 1994, has been updated to:

- Provide background information that is current and more accurately reflects existing conditions, as well as the numerous studies that have been completed since the times the individual elements were prepared;
- Provide clear distinction between policy and explanatory material. Plan policies that were formerly embedded in the text are clearly called out, and policies have been relocated to elements that are more appropriate than their former locations;
- Conform to current federal and state planning law; and
- Eliminate policies that have been precluded or are obsolete or unrealistic due to changed conditions (such as completion of a task or project, development of a specific site, or an adoption of an ordinance or plan), or revise them to demonstrate City support for continuation of or maintenance of a program, event, or plan.

Some of the major editorial changes and additions to the Plan include:

- An introductory section that more clearly identifies monitoring requirements for Plan implementation and schedules for Plan revisions so that it will remain current.
- Addition of development intensity standards (building floor area ratios) for non-residential development as required by state law.¹ These are based on the extensive data on development maintained by the City's Community Development Department, as well as development standards embodied in the Zoning Ordinance;
- Reorganization of the combined Land Use and Circulation elements into separate elements and absorption of the Scenic Routes Element as part of the Open Space and Conservation Element; and

As part of the General Plan Update, a community noise survey was conducted to assess existing conditions. Also, in order to better correlate the Land Use and Circulation elements, a forecast of the traffic conditions at buildout of the General Plan land use designations was made. The forecasted traffic volumes were also used to determine future noise conditions to ensure internal consistency.

CHAPTER 1

INTRODUCTION AND OVERVIEW

The land that is now Milpitas was in pre-historic times part of the home territory of the Tamyen tribelet of the Coastanoan Indians; remnants of two notable village sites from the period can be found in the City. Milpitas' present-day origins can be traced to the presence of Spaniards in the South Bay in the latter part of the 18th century. In the mid-19th century, the area was a stopover-point for travelers between Sutter Fort and San Jose. By the late 1850s, a stage line was operating between San Jose and Oakland with stops in Milpitas.

In the latter part of the 19th century, Milpitas emerged as a marketing center for farmers widely scattered along the plain and the hills. The Southern Pacific Railroad ran a line from Stockton to San Jose reaching Milpitas in 1869, which led to initiation of new commercial enterprises and consolidation of Milpitas' position as an important shipping point of the rapidly farmanizing valley. In 1920s, construction of the San Jose branch of the Western Pacific Railroad gave the community access to a second rail line. As late as the early 1950s, orchards and farms dotted the Milpitas landscape. In 1953, the Ford Motor Company began constructing an assembly plant south of downtown in a strip between the two railroad tracks; the town was incorporated in the following year.

Milpitas has outstripped its origins to rapidly grow into a suburban center of 58,000 people providing 43,000 jobs. Even though much of the City is fairly new - with the exception of the Ford Motor Company plant, and some scattered subdivisions and buildings along Main Street, virtually the entire City has been built over the last 30 years - rapid growth in the region has left little room for expansion of the City boundaries in the flatlands.

The City's General Plan was last updated in 1973, and has been amended several times since. In response to the City's needs and state law, this Plan describes the City's ideas for its future and the ways in which it intends to transform these ideas into reality. This chapter provides an overview of the scope and organization of the General Plan. A glossary of planning terms used in the Plan is included in the Appendix.

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1.1 Scope and Requirements of the General Plan

State law requires each California city and county to prepare a general plan. A general plan is defined as "a comprehensive, long-term general plan for the physical development of the county or city, and any land outside its boundaries which in the planning agency's judgment bears relation to its planning." Thus, the Planning Area can include land beyond the City's corporate limits. State requirements call for general plans that "comprise an integrated, internally consistent and compatible statement of policies for the adopting agency."

While they allow considerable flexibility, state planning laws do establish some requirements for the issues that general plans must address. The California Government Code establishes both the content of general plans and rules for their adoption and subsequent amendment. Together, state law and judicial decisions establish three overall guidelines for general plans:

- The General Plan Must Be Comprehensive. This requirement has two aspects. First, the General Plan must be geographically comprehensive. That is, it must apply throughout the entire incorporated area and it should include other areas that the City determines are relevant to its planning. Second, the General Plan must address the full range of issues that affect the City's physical development.
- The General Plan Must Be Internally Consistent. This requirement means that the General Plan must fully integrate its separate parts and relate them to each other without conflict. "Horizontal" consistency applies as much to figures and diagrams as to the general plan text. It also applies to data and analysis as well as policies. All adopted portions of the General Plan, whether required by state law or not, have equal legal weight. None may supersede another, so the General Plan must resolve conflicts among the provisions of each element.
- The General Plan Must Be Long-Range. Because anticipated development will affect the City and the people who live or work there for years to come, state law requires every general plan to take a long-term perspective. While the time-horizon at which buildout of the Milpitas General Plan would occur is not specified, it is expected that this would take place over a 15- to 25-year period. An on-going review and evaluation process, which enables the Plan's time-horizon to be regularly extended, is provided for in this Plan.

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1.2 Planning Area

The Milpitas Planning Area (1) encompasses an area of approximately 18 square miles, extending between the south end of the San Francisco Bay and the Los Buellis Hills of the Mount Diablo Range in northern Santa Clara County (see Figure 1-1). The Planning Area is congruent with Milpitas' Sphere of Influence.(2) Milpitas' incorporated limits represent about 13 square miles of the Planning Area, while the remainder of the land is unincorporated (see Figure 1-2). The northern edge of the Planning Area is defined by the boundary between Santa Clara and Alameda counties, and west and south of the Planning Area lies the city of San Jose. The Calaveras Reservoir lies about 3/4 mile east of the Planning Area, while the San Jose International Airport is barely 4.5 miles to the south.

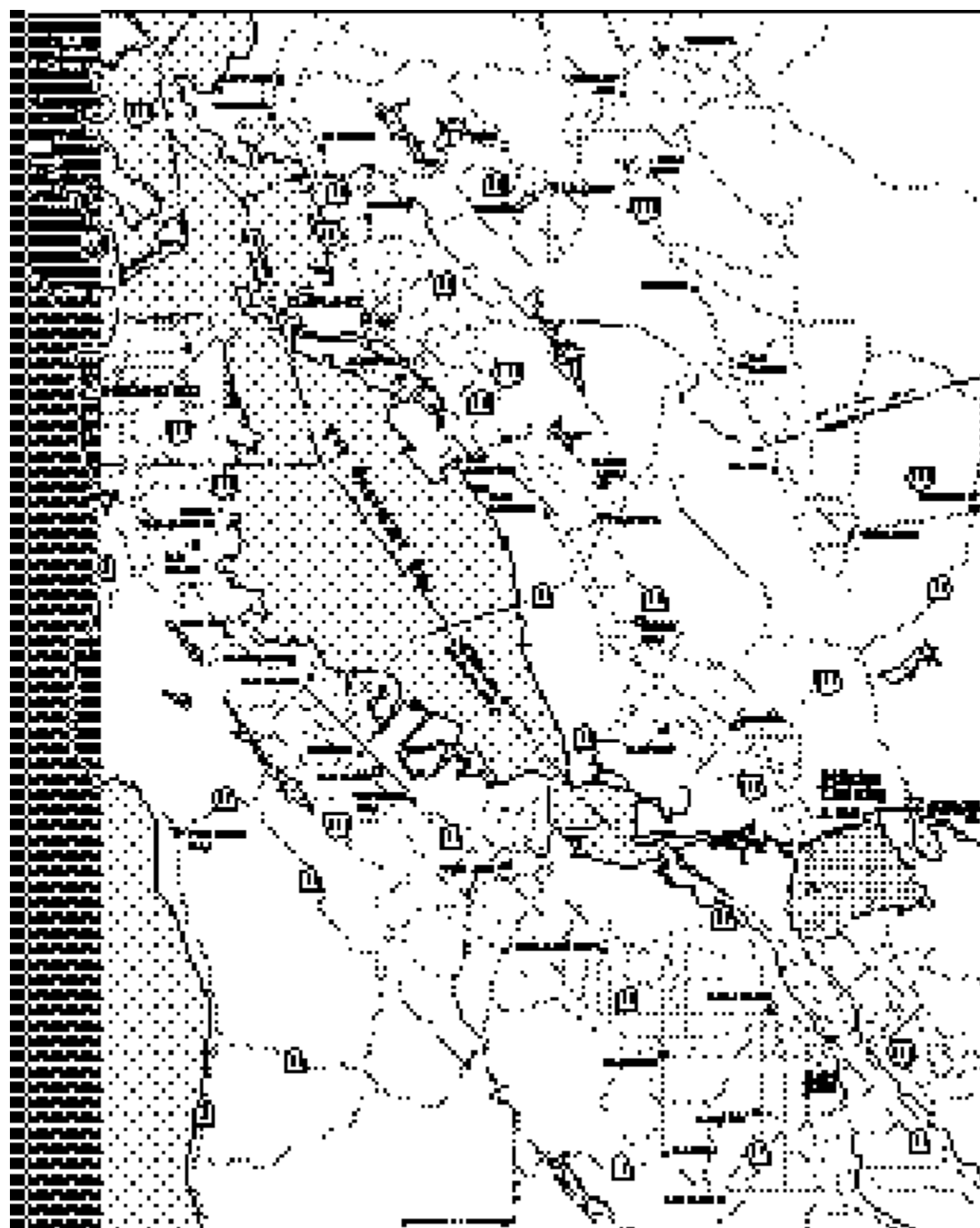
The Planning Area is topographically diverse, with elevations ranging from sea level to about 2,600 feet near Monument Peak. It includes two distinct, almost equi-sized sub-areas - the Valley Floor and the Hillside; numerous geologic faults mark the boundary between the two. The relatively flat Valley Floor occupies the western half of the Planning Area, and extends from Coyote Creek in the west to an elevation ranging between 100 and 200 feet in the east. All of the Valley Floor is within Milpitas' incorporated limits and is almost fully urbanized; the only substantial vacant sites are adjacent to Coyote Creek.

The Hillside occupies the eastern half of the Planning Area. This area is much steeper than the Valley Floor and is characterized by open space with chaparral and native grasses, and some scattered pockets of residences.

(1) A city's "Planning Area" encompasses incorporated and unincorporated territories bearing a relationship to the city's planning.

(2) A city's "Sphere of Influence" is adopted by the Local Agency Formation Commission and encompasses incorporated and unincorporated territory which represent the city's probable ultimate physical boundaries and service area.

Figure 1-1 Regional Location



City of Milpitas
 MILPITAS PLAN

December 1992

Regional Location



Figure 1-2 Boundaries

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1.3 Plan Organization

The organization of the General Plan is summarized in Table 1-1. Throughout the Plan, cross-references guide the reader to related policies in other sections and elements.

Table 1-1 Organization of the General Plan		
<u>General Plan Element</u>	<u>Major Issues Addressed</u>	<u>Closely Related Elements</u>
Land Use	Distribution of land uses, standards for population density and building intensity, schools, public utilities and services	All
Circulation	Street classifications, transit service, pedestrian and bicyclists needs, rail, truck routes	Land Use, Noise
Open Space and Environmental Conservation (combines two state-required elements)	Parks and recreation, vegetation and wildlife, agriculture, scenic resources and routes, water quality	Land Use
Safety	Seismic safety, flooding, fire	Land Use
Noise	Noise attenuation and reduction	Land Use, Transportation
Note: The Housing Element is published as a separately-bound document.		

The General Plan Diagram is included as a fold-out in Chapter 2: Land Use Element. It represents a physical illustration of policies relating to land use, circulation, conservation, and public facilities. The legend in the Diagram is an abbreviated version of the use classifications included in the Land Use Element. The Diagram is an important part of the Plan that contains information not presented anywhere else. However, General Plan policies cannot be interpreted from the Diagram

alone. Policies throughout the Plan complement the information in the Diagram.

Organization of the Elements

Each element of the General Plan includes a statement of purpose and a summary description of the requirements of state planning law for general plan adequacy. This introductory material is followed by topical sections. Sections include background material, which does not represent adopted City policy except where explicitly noted, followed by adopted Guiding Principles and Implementing Policies:

- Guiding Principles are statements of philosophy or intent; and
- Implementing Policies are commitments to specific actions that are to be undertaken in order to achieve the results called for by the Guiding Policies.

Guiding Principles and Implementing Policies are arranged in a tabular format, with adopted statements printed in roman type. **Explanatory material accompanying some policies is printed in the right-side column in italic type and is not adopted.** This commentary provides background information or is intended to guide Plan implementation.

The General Plan Diagram, other figures within the Plan elements, and the Land Use Classifications in Section 2.2 are also adopted parts of the General Plan.

Policy Numbering System. Policies in the General Plan are organized using the following numbering system: The first number refers to the Chapter/Element; the policies are further grouped by Chapter Sections (represented by lower case letters); the upper case letters distinguish Guiding Principles from Implementing Policies; the last number refers to the order in which the policy appears. For example, the first Guiding Principle in the Circulation Element (Chapter 2) is numbered 2.a-G-1 and the first Implementing Policy is 2.a-I-1. Thus, each principle or policy in the Plan has a discrete number, which will facilitate reference in discussion and in City staff reports and implementation documents.

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1.4 Relationship to Other City Regulations, Policies and Programs

The General Plan provides the basis for all of the City's regulations, policies and programs that relate to issues addressed in the Plan. In addition to requiring that the Plan be internally consistent, state law requires "vertical consistency", i.e., consistency between the General Plan and other City actions. This requirement means that the City's zoning and subdivision ordinances, specific plans and redevelopment plans must be consistent with the Plan. In addition, all development approvals, public works projects, and open space implementation programs have to be consistent with the General Plan.

The state's *General Plan Guidelines* provide the following rule for defining consistency: "An action, program, or project is consistent with the general plan if, considering all its aspects, it will further the objectives and policies of the general plan and not obstruct their attainment."⁽³⁾ This rule clarifies that consistency does not require all subsequent City actions to be specifically anticipated by the General Plan. Because the Plan is both general and long-range, there are many circumstances where future City actions will be addressed only generally in the Plan.

Consistency Between the Plan and Zoning

The City's Zoning Ordinance is one of its most important tools for implementing the Plan. Requirements for consistency between the General Plan and zoning can be broken down into two major aspects ⁽⁴⁾:

◆ **Uses and Standards.** The General Plan's land use classifications are broader than the Zoning Ordinance classifications. Multiple zoning districts may be consistent with a single General Plan residential classification, as long as all of the densities and unit types allowed in each zoning district are also permitted in the relevant General Plan category. A General Plan/Zoning Consistency matrix is included in Chapter 2: Land Use Element.

◆ **Spatial Correlation.** The Zoning Map should reflect the general pattern of land use depicted on the Plan Diagram. However the two need not be identical. Boundaries of land use classifications depicted on the General Plan Diagram are generalized; zoning boundaries may follow parcel or other lines. In instances where more than one zoning district corresponds with a single General Plan land use classification, an area with boundaries for the districts should reflect the area of the corresponding use depicted on the Plan Diagram.

(3) General Plan Guidelines. Governor's Office of Planning and Research, Sacramento, CA, 1990, p. 212.

(4) Ibid. p

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1.5 Monitoring and Review

As the City's constitution for development, the General Plan is the heart of the planning process. This section identifies a process to monitor implementation and to ensure currency of the Plan.

Amendments to the General Plan

The General Plan is intended to be a living document and, as such, will be subject to amendments to reflect detailed studies that may be conducted, changes in City policy or state or federal law passed since adoption. To maintain the Plan as current as possible, policies that may become obsolete or unrealistic due to changed conditions (such as completion of a task or project, development of a site, or adoption of an ordinance or plan) should also be eliminated or modified during periodic reviews of the General Plan. State law limits the number of times a jurisdiction can amend its general plan. Generally, no city can amend any mandatory element of its general plan more than four times in one year, although each amendment may include more than one change to the general plan. This restriction, however, does not apply to amendments to:

- ◆ Add, modify or delete optional elements;
- ◆ Allow development of affordable housing;
- ◆ Comply with a court decision;
- ◆ Comply with an applicable airport land use plan; or
- ◆ Implement a comprehensive development plan under the Urban Development Incentive Act.

Detailed Plans

To provide specific direction for development in certain geographic areas, specific plans, area plans, or redevelopment plans may be prepared. These will need to be consistent with the General Plan. Fees to cover the cost of preparation, adoption, and administering these plans may be imposed by the City, in accord with applicable provisions of state law.

Annual General Plan Report

The Government Code requires that an annual report be submitted by October 1 of each year to the City Council, the Governor's Office of Planning and Research (OPR) and the Department of Housing and Community Development. This report must address:

- ◆ The status of the Plan and progress in its implementation, including progress in meeting the City's share of regional housing needs and local efforts to remove governmental constraints to maintenance, improvement and development of affordable housing; and

- The degree to which the General Plan complies with OPR's *General Plan Guidelines*.

To ensure compliance with these requirements and to monitor Plan implementation, the Annual Report should include the following components:

- Status of each Implementing Policy in the General Plan;
- A summary of all General Plan amendments adopted during the preceding year and an outline of upcoming projects and General Plan issues to be addressed in the coming year;
- A summary of progress in meeting Milpitas' fair-share of regional housing needs; and
- An analysis of compliance with *General Plan Guidelines*.

The Annual Report will be prepared by City staff and submitted for review to the Planning Commission, which will make a recommendation to the City Council. Public comments on the Annual Report may be submitted in writing to the Community Development Department. The Planning Commission and the City Council will also hear public comments on the Annual Report at a duly noticed public hearing.

Five-Year Review

The City will undertake a comprehensive review of the General Plan in five-years time (in 1999). This review will include:

- Comprehensive evaluation of Plan policies, including all guiding principles and implementing policies;
- Analysis of the effectiveness of implementation programs and strategies initiated to carry out the Plan; and
- Review of five-year growth trends and re-assessment of future urban land needs in light of the Planning Area's carrying capacity and available land inventory.

The focus of this five-year review will be to determine how well the General Plan has performed - whether policies related to development and environmental conservation have been effective or if new policies are needed. A report summarizing City staff's findings and recommendations will be circulated for public comment and then presented to the Planning Commission. The Planning Commission will review the report on the five-year review and make a recommendation to the City Council. The Planning Commission and the City Council will also hear comments on the report at duly noticed public hearings.

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CHAPTER 2

LAND USE ELEMENT

• Purpose

The text and policies of the Land Use Element, and the General Plan Diagram (color foldout on page 2-3) provide the physical framework for development in the Planning Area. The Diagram designates the proposed general location, distribution and extent of land uses. Uses on sites less than two acres in size are generally not depicted on the Diagram. As required by state law, land

use classifications, shown as letter designations, labels or graphic patterns on the Diagram, specify a range for population density and building intensity for each type of designated land use. These standards of population density and building intensity allow circulation and public facility needs to be determined; they also reflect the environmental carrying-capacity limitations established by other elements of the General Plan.

◆ Relationship to Other Elements

The Land Use Element correlates land use policies contained in the other elements. Land Use designations on the General Plan Diagram, and building density and intensity standards contained in the Land Use Element provide a basis for determining future traffic conditions and the need for capital facilities, such as street improvements, parks and schools.

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- 2.1 Population and Growth
- 2.2 Land Use Classifications
- 2.3 Jobs/Housing Relationship
- 2.4 Schools
- 2.5 Public Facilities and Utilities
- 2.6 Land Use Principles and Policies

2.1 Population and Growth

Population Growth

The Planning Area's estimated 1994 population is 58,070. Between 1980 and 1990, the Planning Area grew at a rate of 3.0 percent per year, twice as fast as Santa Clara County as a whole (Table 2-1). The City has recently (between 1990 and 1993) grown at an even faster rate compared to the County (4.1 compared to 1.6 percent per year).

Buildout of all land vacant in 1994 under land use designations of the General Plan would result in an additional population of approximately 3,000 in the City, or a total population of about 60,570 in the Planning Area. However, this may be affected as a result of any Plan amendments that may subsequently be adopted.

Table 2-1 Population Estimates and Projections				
	1980	1994	1980-1994 Growth Rates	Estimated Buildout Population
City of Milpitas	37,820	57,926	3.1%	61,040
Milpitas Planning Area	37,950	58,070	3.1%	
Santa Clara County	1,295,073	1,587,768	1.5%	
a The Department of Finance projects a 2010 population of 1,835,400 for Santa Clara County.				
Sources: City of Milpitas, 1994; California Department of Finance, 1994.				

While buildout of the General Plan is expected to occur over a 15- to 25-year period, the time at which buildout would occur is not specified in or anticipated by the Plan.

Land Availability

Table 2-2 summarizes the status, as of Summer 1994, of developed and vacant land within City limits under the different General Plan land use classifications. About one-third of the developed land in the Valley Floor is devoted to Single Family Low Density Residential use, with all designated residential areas accounting for about 45 percent of the Valley Floor. Half of the vacant land in the Valley Floor is designated for industrial (Manufacturing and Industrial Park) uses. About 20 percent of total land in the Valley Floor is vacant and available for development.

Figure 2.1
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Land Use

Table 2-2
1994 Citywide Land Availability

	DEVELOPED		UNDEVELOPED		TOTAL	
	Acres	Units	Acres	Units²	Acres	Units
HILLSIDE						
Hillside Medium Density	336	416	23	15	359	431
Hillside Low Density	160	37	209	40	369	77
Hillside Very Low Density	25	13	3,677	144	3,702	157
Ed. R. Levin County Park	1,530	0	0	0	1,530	0
Total Hillside	2,051	466	3,909	199	5,960	665
VALLEY FLOOR						
Single Family Low Density	1,797	8,910	55	278	1,852	9,188
Single Family Mod. Density	128	1,151	29	208	157	1,359
Multi-Family Med. Density	130	1,117	20	165	150	1,282
Multi-Family High Density	265	3,594	0	0	265	3,594
Town Center	69	150	21	0	90	150
Professional/Admin. Office	12	0	2	0	14	0
Retail Subcenter	51	0	19	0	70	0
General Commercial	302	0	156	0	458	0
Highway Service	187	563	93	0	280	563
Industrial Park	455	0	367	0	822	0
Manufacturing	789	0	245	0	1,034	0
Public	295	0	13	0	308	0
Parks and Greenways	185	0	159	0	344	0
Major Sts., Freeways & Rail.	580	0	54	0	634	0
Total Valley Floor	5,245	15,485	1,233	651	6,478	16,136
TOTAL HILLSIDE AND VALLEY FLOOR	7,286	15,951	5,142	850	12,438	16,801

1 Area is in "gross acres" (i.e., includes minor streets, storm channels, etc.).

2 Estimate of future dwelling unit potential.

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2.2 Land Use Classifications

The following descriptions apply to land uses indicated on the General Plan Diagram. The legend on the General Plan Diagram is an abbreviated version of the descriptions. The classifications represent adopted City policy and are meant to be clear, but broad enough to give the City

flexibility in implementing the Plan. The City's Zoning Ordinance contains more detailed use provisions and development standards than are described in the classifications. More than one zoning district may be consistent with a single General Plan land use classification. Table 2-3 shows correspondence between the General Plan and the Zoning Ordinance.

**Table 2.3
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Milpitas General Plan Land Use/Zoning Consistency

According to state law, the General Plan must establish standards of population density and building intensity for each land use classification. The General Plan expresses residential density as housing units and persons per gross acre, as established in Table 2-4 and the land use classifications that follow. Density ranges specified for each category are discrete and not cumulative. However, housing types are cumulative (i.e. single family units are permitted in areas designated for multifamily use), provided the overall development project falls within the stipulated density range.

TABLE 2-4 Standards For Density And Development Intensity				
Land Use Designation	Residential Density (Units/ gross acre)	Maximum Permitted Floor-Area Ratio-- FAR	Residential Population	
			Persons/ Housing Unit¹	Persons/ Acre
<u>VALLEY FLOOR</u>				
Residential				
Single-family-Low	3-5	---	3.6	11-18
Single-family Moderate	6-15	---	3.4	20-51
Multifamily Medium	7-11	---	3.3	23-36
Multifamily High	12-20	---	2.8	34-56
Multifamily High with Special PUD approval	21-40	---	2.5	53-100
Mobile Home Park	6-7	---	1.6	10-11
Commercial				
Town Center	up to 40 ²	0.85	3	3
General Commercial	---	0.50	n.a.	n.a.
Retail Sub-center	---	0.35	n.a.	n.a.
Professional and Administrative Office	---	0.5	n.a.	n.a.
Highway Service	---	0.5	n.a.	n.a.
Industrial				
Industrial Park	---	0.5	n.a.	n.a.
Manufacturing and Warehousing	---	0.4	n.a.	n.a.
<u>HILLSIDE</u>				
Residential				
Very Low Density	up to 0.1	---	3.6	less than 1
Low Density	up to 1.0	---	3.6	up to 4
Medium Density	up to 3.0	---	3.6	up to 11
¹ Based on an overall average of 3.36 household population per total housing unit (California Department of Finance 1994).				
² Findings necessary.				
³ Depends on the density of housing provided.				

For nonresidential uses, a maximum permitted ratio of gross floor area to site area (FAR) is specified. FAR is a broad measure of building bulk that controls both visual prominence and traffic generated. It can be clearly translated to a limit on building floor area in the Zoning Ordinance and is independent of the type of use occupying the building. The Zoning Ordinance will include provisions for reviewing and approving deviations from the FAR limitations for uses with low employee densities, such as wholesaling and distribution, or low peak-hour traffic generation, such as a hospital.

The density/intensity standards do not imply that development projects will be approved at the maximum density or intensity specified for each use. Zoning regulations consistent with General Plan policies and/or site conditions may reduce development potential within the ranges stated in the Plan.

Valley Floor

The following use descriptions apply to the Valley Floor portion of the Planning Area.

◆ RESIDENTIAL

Residential densities are expressed as a range of housing units per gross acre of developable land, provided that at least one housing unit may be built on each existing parcel designated for residential use. Second units permitted by local regulations (i.e. "granny flats", "in-law units"), and state-mandated density bonuses for affordable housing are in addition to densities otherwise permitted.

Single-family Low Density. 3 to 5 units per gross acre. All housing units are to be individually owned, either on separate lots or as part of a clustered Planned Unit Development. Single-unit detached residences will be the typical housing type in this category.

Single-family Moderate Density. 6 to 15 units per gross acre. All housing units are to be individually owned, either on separate lots or as part of a clustered Planned Unit Development. Developments with densities ranging from 7 to 10 units per acre may be approved only if proposals are found to be consistent with policies and programs of the General Plan and compatible with the surrounding neighborhood. Single-unit attached residences will typically be built within this density range. Densities higher than 10 units per acre would be consistent only for sites of 5 acres or less, accompanied by specific findings relating to:

- ◆ Appropriate relationship to surrounding land uses.
- ◆ Affordability (for PUDs the acceptable floor area range is 600 to 1,100 sq. ft.)

Multifamily Medium Density. 7 to 11 units per gross acre. This density range would allow single-family attached and semi-detached houses and duplexes.

Multifamily High Density. 12 to 20 units per gross acre. This density range would accommodate a variety of housing types, ranging from row houses to triplexes and four-plexes, stacked townhouses and walk-up garden apartments. Densities up to 40 units per gross acre may be permitted for proposals designed as Planned Unit Developments (PUDs) provided that the following criteria are met:

- ◆ Sewer and water service is sufficient to accommodate the proposal as well as other developments permitted by the General Plan. Any improvements to the sewer or water system that would be required to accommodate any such higher density proposals would be made conditions of project approval;

- Cumulative traffic, from the increased density and other existing or future projects, must not cause any street intersection to operate below Level of Service (LOS) E; and
- The design of such higher density projects will not have adverse shadow, view obstruction or loss of privacy impacts that are not mitigated to acceptable levels.

Mobile-home Park. This is an overlay category that may be combined with Single-family Low Density, Multifamily Medium Density and Multifamily High Density Residential, or Highway Service classifications. Mobile-home park, along with accessory uses, is the permitted use. Maximum residential density would range from 6 to 7 units per gross acre when combined with the use classifications as follows:

- Single-family Low Density Residential: 6 housing units per gross acre.
- **Multifamily Medium & High Density Residential, and Highway Service:** 7 housing units per gross acre.

In addition to the above-stipulated densities, one additional housing unit per gross acre may be permitted upon a finding by the Planning Commission that the proposed project is of a superior functional and aesthetic design based upon it exceeding adopted mobile home park development standards.

● COMMERCIAL

Town Center. This designation provides for a variety of commercial, civic and residential uses appropriate to the Center's role as the functional and visual focus of Milpitas. The Town Center is a meeting place and a market place, the home of commercial and professional firms, an entertainment area and a place for restaurants and hotels. The Center consists of two distinct sub-areas, one to the east of Hillview Drive, the other to the west. The development concept for the Town Center is to have predominantly office and highway serving uses (hotels, restaurants, etc.) in the East Area, and predominantly retail and entertainment uses in the West Area. This separation into distinct sub-areas allows for a variety of uses within the Town Center and yet, through their separateness, ensures that they will reinforce rather than negatively affect each other.

Because of this unique and relatively intensive mix of activities, very high density residential developments (i.e., up to 40 units per acres) may be permitted within the Town Center because of the increased economic support the residents would offer to the commercial uses.

General Commercial. This classification provides for a wide range of retail sales, and personal and business services accessed primarily by the automobile. It includes commercial uses in which shopping may be conducted by people walking to several stores as in a center, and may include uses customarily of a single-purpose character served from an adjacently parked automobile.

Retail Sub-Center. This classification accommodates neighborhood shopping facilities that provide for convenience needs, such as groceries and minor hardgood purchases. The General Plan provides for nine sub-centers, between two and 20 acres in size, distributed throughout the City. Professional and Administrative Office. This classification provides advantageous locations for medical, law, and similar services required to serve residents and businesses. While office uses can be located in all of the commercial districts, the Professional Administrative Office areas are solely for these uses. Highway Service. This classification provides for motels, mobile home parks, and non-retail services such as car-rental offices. Eight highway service areas are designated on the General Plan Diagram, typically at the intersection of major streets and/or freeways.

● INDUSTRIAL

Manufacturing. This classification encompasses a variety of light and heavy industrial activities, such as manufacturing, packaging, processing, warehousing and distribution, and ancillary

support uses.

Industrial Park. This classification accommodates research, professional, packaging and distribution facilities in a park-like setting, free from noise, odor and other such nuisances.

Hillside

The Hillside Area comprises approximately 6,000 acres generally east of Piedmont Road, Evans Road and the portion of North Park Victoria Drive north of Evans Road. The undeveloped portion of the Hillside Area is characterized by gentle to steep slopes, grassy terrain with some chaparral and trees, wildlife, geologically unstable areas, the Ed R. Levin County Regional Park, and a feeling of remoteness from the more urban portions of the City. These conditions warrant Plan proposals and use classifications that differ considerably from those for the Valley Floor Area.

To ensure safety and to preserve its natural ambiance, all development in the Hillside Area is to be of low-density rural residential nature. Three categories of residential uses are provided. The Low and the Medium Density categories accommodate existing development; all new development is to be at a Very Low Density.

◆ RESIDENTIAL

Residential densities are per gross acre of developable land provided that at least one housing unit may be built on each existing parcel designated for residential use. Densities outlined in the classifications are maximums for the classifications; these decrease with increase in slope as outlined in the classifications and defined in detail in the City's Zoning Ordinance. The City may further reduce the permitted density on a site if such a reduction is necessary or appropriate for reasons of site conditions, access, views or geologic hazards. Second units permitted by local regulations and state access-mandated density bonuses for affordable housing are in addition to densities otherwise permitted.

Very Low Density. The maximum permitted density for this classification is one dwelling unit per ten gross acres. The maximum density decreases with increase in slope until 80 acres per housing unit is required for land with an average slope of 50 percent or greater. This designation includes most of the Hillside Area.

Low Density. The maximum density for this classification is 1.0 housing unit per gross acre. This density decreases with increase in slope until ten acres of land are required per housing unit for sites with an average slope of 27 percent or more. Three relatively small areas of the Hillside (representing prior developments) are shown on the General Plan Diagram with this designation. **Medium Density.** The maximum density for this classification is approximately 3.0 units per gross acre on level land and decreases with increasing slope until ten acres of land are required per unit for sites with an average slope of approximately 27 percent or more. Areas designated as Medium Density (all existing) include:

- ◆ Development along the base of the hillside area;
- ◆ Summit Point residential/Tularcitor golf course;
- ◆ Calaveras Ridge PUD; and
- ◆ The Lytton-Everett Subdivision off Country Club Drive.

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2.3 Jobs/Housing Relationship

Between 1980 and 1990, Milpitas was the fastest growing employment center in Santa Clara County. During the same period, Milpitas added jobs at about twice (1.85 times) the rate of Santa

Clara County, going from a 1980 deficiency of jobs compared to employed residents to over 60 percent more jobs than employed residents in 1990 (Table 2-5). Leading employers in the City are manufacturers of computer peripherals, electronic and medical equipment.

Table 2-5 Growth In Jobs And Employed Residents; Milpitas And Santa Clara County						
	1980			1990		
	Employed Residents	Jobs	Jobs/ Employed Residents	Employed Residents	Jobs	Jobs/ Employed Residents
Milpitas Planning Area	19,000	16,059	0.85	26,369	42,830	1.62
Santa Clara County	666,510	702,922	1.05	812,345	864,110	1.06
Sources: <i>Projections '92</i> ABAG; U.S. Census 1990.						

Despite this large increase in jobs and the resulting surplus, only 21 percent of workers who live in Milpitas actually work in the City (Table 2-6). Increasingly, jobs in Milpitas, like other places in the Bay Area, are being filled by workers who work in places outside the ones they reside in. This is reflected in the growing inter-city and inter-county commuting and increasing commuting times in the South Bay(1). Out of City residents fill an estimated 85 percent of jobs in Milpitas. Because Milpitas is a part of larger urban Bay Area, with many job and housing opportunities within commuting distance of the City, a greater balance between the number of jobs and housing in Milpitas will not by itself lead to a decline in commuting to and from the City.

(1) Between 1980 and 1990, the percentage of workers living in Santa Clara County who also worked in the County decreased from 92.5 to 89.2 percent. The number of inter-county commuters living in the County increased by 60.9 percent between 1980 and 1990, even though the total number of commuters increased by 22.3 percent.

Table 2-6 Place of Work of Workers Living in Milpitas, 1990	
Milpitas	5,449
San Jose or Palo Alto	7,630
Elsewhere Santa Clara County	8,590
Ca. Outside Santa Clara County	4,053
Outside of State	35
Total Workers	25,757
Source: U.S. Census, 1990	

Employment Growth Prospects

According to projections by the Association of Bay Area Governments, Milpitas will add about 16,900 jobs between 1990 and 2010. Only San Jose will add more jobs in the County during the period. Application of average development and employment intensities to vacant sites shows that Milpitas would be able to accommodate about 32,000 new jobs under current General Plan designations (Table 2-7), more than enough to meet projected needs over the next 20 years.

Table 2-7 Land Availability For Job Growth, 1994				
	Assumptions			
	1994	Estimated	Average	Building

General Plan Land Use Designation	Vacant Land (Acres)	Potential New Jobs¹	FAR	square feet/employee
Professional/Administrative Office	14	570	0.35	375
Retail Subcenter	19	410	0.25	500
General Commercial	156	3,400	0.25	500
Highway Service	93	2,030	0.25	500
Industrial Park	367	14,920	0.35	375
Manufacturing	245	9,960	0.35	375
Town Center	21	650	0.30	425
Total	915 acres	31,940 jobs		

FAR = Building floor area to site area ratio.
¹ Estimated new jobs rounded to nearest 10.

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2.4 Schools

◆ Facilities and Enrollment

The Planning Area is served by the Milpitas Unified School District (MUSD). MUSD operates nine elementary (grades K-5; Burnett, Curtner, Pameroy, Randall, Rose, Sinnott, Spangler, Weller and Zanker), two middle (grades 6-8; Rancho Milpitas and Russell) and two high (grades 9-12; Milpitas High and Calaveras Hills) schools. In addition to public schools, private and parochial schools also serve the Area. A total of 8,898 students were enrolled in public schools in April 1993 (Table 2-8). While this is below the overall capacity of the schools (9,238), almost all of the District's elementary schools are operating above or near capacity.

Table 2-8 Milpitas Unified School District: Capacity, Enrollment, and Projected Increase			
Grade¹	Capacity	Total Enrollment	Additional Enrollment from General Plan Buildout
K-6	5,200	5,199	181
7-8	1,382	1,296	45
9-12	2,656	2,403	83
Total	9,238	8,898	309

¹ Including Special Day Class Enrollment.
Source: Milpitas Unified School District, 1993; Blayney Dyett 1994.

◆ Projections

Growth resultant from the buildout of the General Plan would result in the addition of 309 students. Table 2-8 lists the additional students that would be generated by grade category using MUSD's student generation rates of 0.25 students per multifamily dwelling unit and 0.50 students per single family dwelling unit, broken down by grade in proportion to the current enrollment.

The School Facilities Act of 1986 expressly prohibits denial of a project based on the adequacy of school facilities. However, courts have held that prohibitions apply only to adjudicatory approvals (such as tentative maps, use permits, design review, etc.), but not to legislative approvals (such as general plan amendments, specific plans, etc.).

Milpitas currently levies fees for new residential, commercial and industrial development.

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2.5 Public Facilities and Utilities

For information on safety services and emergency management please see Chapter 5: Seismic and Safety Element. For water conservation, see Section 4.4: Water Quality and Conservation.

◆ Government Facilities

The Civic Center (consisting of City Hall, Community Center and Library) is adjacent to the Town Center. The Police Station and Corporation Yard are located on the west side of North Milpitas Boulevard. There are four fire stations located throughout the Valley Floor Area. The locations of these City facilities, as well as the County's Elmwood Correctional Facility on Abel Street, are indicated on the General Plan Diagram.

◆ Water Supply

The City receives water from the San Francisco Water Department (SFWD) through the Hetch Hetchy system by connections on two of the four local aqueducts that transport water from mountain reservoirs to San Francisco and the Peninsula. While the SFWD aqueduct is able to meet the City's demand, the City's 1980 *Water Master Plan* concluded that it would be more cost effective for the City to obtain some of its water from the Santa Clara Valley Water District (SCVWD). As a result, industrial areas in the southwestern part of the City have since August 1993 been receiving water from the SCVWD. The 1993 average water consumption in the City was about 8.8 million gallons per day (mgd), with a maximum monthly average of 12.0 mgd. Planned 1995 water storage is 16.3 million gallons. The locations of the two water storage tank sites are indicated on the General Plan diagram. The City updated its Water Master Plan in 1994.

◆ Wastewater Services

The San Jose/Santa Clara Water Pollution Control Plant (WPCP), the wastewater treatment facility for the City, is located in San Jose. It is a tertiary regional facility serving San Jose, Santa Clara, Milpitas, West Valley Sanitation District, Cupertino Sanitary District, County Sanitary District 2-3, Burbank Sanitary District, and the Sunol Sanitary District. Milpitas wastewater service area is contiguous with the City boundaries.

Capacity and Discharge. In 1993, the City discharged 6.8 mgd and is contractually limited to a flow of 12.5 mgd. The dry weather flow rate was 5.8 mgd in 1992. The WPCP has a dry-weather total capacity of 167 mgd, and a current average daily flow of approximately 110 mgd. There are no plans to increase the capacity of the WPCP. To mitigate a discharge-limit cap, conditions to WPCP's National Pollution Discharge Elimination System discharge permit have been imposed (see Section 4.4). The location of the City's sewer pump station is indicated on the General Plan diagram.

Current Programs. In order to allow the WPCP to meet the more stringent discharge requirements into the Bay, Milpitas is participating in conservation programs and plans to divert flows to reclamation systems. It is anticipated that reclaimed water to supplement potable irrigation water would become available sometime in 1997. The City is also considering

participating in a program to assist industrial dischargers install pollution control facilities to meet the more stringent discharge requirements.

The City completed an inflow and infiltration sewer remedial program in 1989. The City also updated its sewer master plan in 1994 .

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2.6 Land Use Principles and Policies

◆ a Land Use

Guiding Principles

2.a-G-1 Maintain a land use program that balances Milpitas' regional and local roles by providing for a highly amenable community environment and a thriving regional industrial center.

2.a-G-2 Maintain a relatively compact urban form.

2.a-G-3 Provide for a variety of housing types and densities that meet the needs of individuals and families.

2.a-G-4 The Town Center will be the "heart" of Milpitas' civic, cultural, business, and professional life.

2.a-G-5 A park-like setting will be created by a series of local parks, school sites, and a greenway system laced throughout all living areas.

Implementing Policies

Development Intensity

2.a-I-1 New developments should not exceed the building intensity limits established in the General Plan. - *Housing density standards consistent with the General Plan are already established in the Zoning Ordinance. Limits on development intensity are required by state law.*

Growth and Expansion

2.a I-2 Promote development within the incorporated limits which acts to fill-in the urban fabric rather than providing costly expansion of urban services into outlying areas.

Economic Development

2.a-I-3 Encourage economic pursuits which will strengthen and promote development through stability and balance.

2.a-I-4 Publicize the position of Milpitas as a place to carry on compatible industrial and commercial activities with special emphasis directed toward the advantages of the City's location to both industrial and commercial use.

2.a-I-5 Maintain policies that promote a strong economy which provides economic opportunities for all Milpitas residents within existing environmental, social fiscal and land use constraints.

2.a-I-6 Endeavor to maintain a balanced economic base that can resist downturns in any one

economic sector.

2.a-I-7 Provide opportunities to expand employment, participate in partnerships with local business to facilitate communication, and promote business retention.

2.a-I-8 Establish redevelopment projects to secure funds that can be used to attract commercial, industrial, and residential development in order to eliminate blight and improve an area.

Community Identity

2.a-I-9 Preserve and maintain the historical landmarks of Milpitas and its physical setting so the residents will recognize they are a part of a distinctive and dynamic community. - *Detailed policies related to historic preservation are in Section 4.9.*

2.a-I-10 Foster community pride and growth through beautification of existing and future development. - *A master streetscape and public spaces plan could help to design and identify detailed actions. For more detailed policies, see Section 4.7: Scenic Resources and Routes.*

Residential Development

2.a-I-11 Create a park-like quality for all residential areas through the PUD process and the judicious siting of parks, schools and greenways throughout those areas.

2.a-I-12 Use zoning for new residential developments to encourage a variety and mix in housing types and costs. - *This policy is also in the Housing Element.*

2.a-I-13 Geographically disperse similar development types throughout the community so that denser districts are not concentrated within a single area of the City. - *This policy is also in the Housing Element.*

Hillside Development

(For policies relating to crestline and scenic resources protection, see Section 4.9: Scenic Resources and Routes: for safety issues related to hillside development, See Section 5.5: Seismic and Geologic Hazards.)

2.a-I-14 Encourage clustered housing and planned unit developments to reduce the visual impact as viewed from the Valley Floor, preserve natural topographic features, avoid geologic hazards and provide open space in residential areas.

2.a-I-15 Where planned unit developments are not undertaken, protect major portions of the subdivision with open space easements.

2.a-I-16 Limit new development in the Hillside Area to only to Very Low Density Residential, open space and park uses.

2.a-I-17 In order to preserve the natural topography of the hillside, limit densities otherwise permitted in the hillside according to a slope-density formula. - *Section XI-10-45.03 of the Zoning Ordinance elaborates upon these requirements.*

2.a-I-18 To ensure that development in the foothills is in keeping with the natural character of the hillside, and that views are protected, require city review and approval of all proposed development or major alterations to existing development in the hillside. As part of the review, ensure that:

- landscaping is of a type indigenous to the area;
- that building designs, materials and colors blend with the environment; and
- grading is minimized and contoured to preserve the natural terrain quality.

Section XI-10-45.09 of the Zoning Ordinance prescribes the review requirements in detail.

2.a-I-19 Establish crestline protection areas around the ridges which will ensure that buildings and grading west of the first ridge do not visually penetrate a band of land that lies 100 feet vertically below the apparent crestline when viewed from certain specific sites on the valley floor and that no structures just east of the crestline extend above the crestline sight line.

Town Center

2.a-I-20 Develop the Town Center as an architecturally distinctive mixed-use complex which will add to Milpitas' identity and image.

2.a-I-21 Require development in the Town Center to conform to the adopted design principles/requirements of the Milpitas Redevelopment Agency.

Child Care

2.a-I-22 Encourage the establishment of day care facilities consistent with State standards, including the issuance of use permits for large day care facilities where compatible with surrounding neighborhoods and commercial uses, particularly in public facilities such as community centers, churches, schools and in employment centers and large housing developments.

2.a-I-23 Consider zoning code modifications to encourage day care facilities through development bonuses, flexible parking regulations, design provisions for modular units, and similar incentives.

2.a-I-24 Collect and disseminate information regarding existing day care facilities and programs to major employees.

Land Use Element Revision

2.a-I-25 Undertake a comprehensive revision of the Land Use Element, including the General Plan Diagram prior to the 1999 five year comprehensive review of the complete General Plan. - *The last comprehensive revision of the Land Use Element took place about 20 years ago. The planned light rail, need for a strategy to deal with underutilized sites designated for the industrial uses, housing land supply, strategies to strengthen uses around downtown etc. are best addressed through a comprehensive examination of the City's long-term land needs and availability.*

• b **Jobs/Housing Relationship**

Guiding Principle

2.b-G-1 Support jobs/housing balance programs at the local and regional scale intended to reduce the distance needed to commute.

Implementing Policies

2.b-I-1 Periodically monitor the jobs/housing balance within the City. - *This can be done as part of the Five-year review of the General Plan. (See Section 1.6)*

2.b-I-2 Consider locating housing in close proximity to industrial developments where they can be served by existing city services and facilities. - *This policy is also in the Housing Element.*

2.b-I-3 Provide housing opportunities in Milpitas by meeting the City's regional fair-share housing obligations.

2.b-I-4 Support jobs/housing balance programs at the regional scale that reduce in- and out-commuting from Milpitas. - *Despite the presence of a greater number of jobs than employed residents, only one-fifth of workers living in Milpitas actually work in the City. Local programs to balance jobs and housing would be effective only if they are part of an overall regional strategy.*

● c Schools

Guiding Principle

2.c-G-1 Provide adequate school facilities for the City's residents. - *The quality of educational programs and facilities is an important component of the community's quality of life and the desirability of the City to new residents and businesses.*

Implementing Policies

2.c-I-1 Continue working with MUSD in its update of the comprehensive facilities plan and to ensure adequate provision of school facilities.

2.c-I-2 Locate future school sites on the General Plan Diagram if and when any amendments to the Plan are made that would necessitate new schools. - *At this time, additional student population that would result from implementation of the Plan does not justify designation of any new schools on the General Plan Diagram.*

2.c-I-3 Work with MUSD to monitor statutory changes and modify school fee when necessary to comply with statutory changes.

● d Public Facilities and Utilities

Guiding Principles

2.d-G-1 Provide all possible community facilities and utilities of the highest standards commensurate with the present and anticipated needs of Milpitas, as well as any special needs of the region.

2.d-G-2 Develop adequate civic, recreational, and cultural centers in locations for the best service to the community and in ways which will protect and promote community beauty and growth.

Implementing Policies

2.d-I-1 Coordinate capital improvement planning for all municipal service infrastructure with the location and timing of growth.

2.d-I-2 Periodically update the City's water and sewer master plans.

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CHAPTER 3

CIRCULATION ELEMENT

◆ Purpose

The Circulation Element designates the general location and extent of existing and proposed major thoroughfares, transportation routes and other local public facilities.

◆ Relationship to Other Elements

The Circulation Element is systematically and reciprocally correlated with the Land Use Element, which includes policies related to the physical framework for development that the circulation system is designed to serve. Projected noise conditions in the Noise Element are also based on the traffic analysis conducted as part of the Circulation Element.

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Much of Milpitas' evolution and recent growth can be attributed to its strategic location at the narrow plain between the Diablo Range and the San Francisco Bay that connects the East Bay and the South Bay. Milpitas is one of the few cities in the Bay Area with access to two interstate highways (Interstates 880 and 680). Almost all of the City is within a mile of the interstates. State Route 237 and the Montague Expressway traverse the City.

While much of the City's economic growth during the 1980s resulted from spillover of high-technology industries and offices from the Silicon Valley, recent gains are partly resultant of Milpitas' links to other places in the Bay Area, as well as the City's emergence as an employment center. Efficient regional connections are important to the continued development of the City and vital to many residents as well; about 79 percent of the City's employed residents in 1990 commuted to a destination outside the City, while 85 percent of the jobs in Milpitas were filled by out-of-City residents (See tables 2-7 and 2-8 in Section 2.3: Jobs Housing Relationship). Mean travel time to work for City residents was 22.9 minutes in 1990, compared to 23.3 minutes for County residents as a whole.

The residents' mode of transportation to work was quite similar to that of County residents in 1990, with about 92 percent of the workers relying on the automobile as the primary mode (Table 3-1). While the proportion of workers using the automobile remained about the same between 1980 and 1990, the proportion of residents car-pooling declined (20.7 percent in 1980 compared to 15.8 percent in 1990, with commensurate increase in the proportion of drive-alone trips). Relatively few work-trips were walking or bicycle trips.

Table 3-1
Mode of Transportation to Work for Residents

	Percent of Total	
	Milpitas	Santa Clara County

Car, Truck or Van		
Drove Alone	76.1%	77.7%
Carpooled	15.8%	12.3%
Public Transportation	3.0%	3.0%
Motorcycle	0.7%	0.5%
Bicycle	0.4%	1.5%
Walked	1.3%	2.1%
Other Means	0.7%	0.5%
Worked at Home	2.1%	2.5%
Total Workers	25,757	796,605
Note: Percentages may not add to 100% because of independent rounding.		
Source: 1990 U.S. Census		

The Circulation Element provides a framework to guide growth of Milpitas' transportation-related infrastructure over the next 20 years. The Element is closely integrated with the Land Use Element to maintain acceptable level of service as the City grows and to plan an adequate street network to serve future development.

3.1 Relationship to Regional Programs

For a discussion of the Bay Area Air Quality Management District's programs, see Section 3.4.

A recognition of the functional relationships between transportation, land use and air quality, as well as of the need for jurisdictional cooperation, has led to a recent spurt of legislation. The Congestion Management Program requirements in California (1990) and the Intermodal Surface Transportation Efficiency Act (ISTEA; 1991) at the federal level, seek to further cooperative decision-making and provide local agencies with increased flexibility in the allocation of transportation improvement funds.

Major street improvements to meet the needs for a long-range planning horizon are identified in Section 3.3 of this Element. These projects will later be studied in greater detail, and funding and implementation sources would be identified. Many of the projects are part of local and regional programs, including the City's Capital Improvement Program, the Santa Clara County Congestion Management Program (CMP), and the Regional Transportation Improvement Program (RTIP).

Regional Transportation Plan

ISTEA calls upon states to maximize the efficiency of their transportation systems through coordinated state and regional long range transportation planning that defines an integrated multi-modal system and addresses future maintenance and improvement requirements. As the designated metropolitan planning organization for the Bay Area, the Metropolitan Transportation Commission (MTC) is responsible for preparing a long range Regional Transportation Plan (RTP). The RTP includes three major elements: Policy, Financial and Action.

In addition, to remain eligible for federal transportation funds, a region must demonstrate that the highway and transit projects contained in its RTP will help attain and maintain federal air quality standards. Once adopted, a RTP serves as a guide for the region's Transportation Improvement Programs (TIPs) in which projects and their specific funding sources are listed.

1994 Regional Transportation Plan. The RTP considers the long-range mobility needs of the region and provides a blueprint for maintaining and improving key transportation infrastructure and services, termed the Metropolitan Transportation System. RTP implementation would require a strong degree of cooperation among the state, regional, and local agencies responsible for transportation within the region.

The RTP also expands the region's transit network, including several light rail extensions in Santa

Clara County (see Section 3.4). It also includes funding for bicycle and pedestrian improvements in each county, including Santa Clara County. These improvements are generally determined by cities and counties through local processes on an annual basis.

Santa Clara County Congestion Management Program

The County Congestion Management Program (CMP) is administered by the Santa Clara County Congestion Management Agency (CMA), which is also responsible for overseeing local agency compliance with state law. The CMP promotes an integrated approach to transportation planning decision-making and seeks to maintain mobility in Santa Clara County by establishing traffic and transit standards, trip-reduction and travel-demand requirements, and by incorporating the transportation implications of land-use decisions in planning efforts.

Cities within the County are responsible for conformance with the adopted service level standards on the principal arterial system defined by the CMP, and for transit standards. They are also responsible for the adoption and implementation of a trip-reduction and travel-demand ordinance and for developing a program to analyze the impacts of land use decisions. Where deficiencies in the system exist, deficiency plans must be adopted and methods of correcting the deficiencies identified. If deficiencies go unmitigated, a city could lose its entitlement to a portion of its gas tax revenues.

Capital Improvements Program (CIP). The CMA maintains a CIP which includes a list of transportation facility improvements that is submitted to the MTC for inclusion in the Regional Transportation Improvement Program (RTIP), or for funding from the state (Flexible Congestion Relief Funds) or from the federal Surface Transportation and the Congestion Mitigation/Air Quality programs.

Traffic level of service (LOS) standards adopted as part of the CMP are discussed in Section 3.2 and the street network in Section 3.3.

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3.2 Standards for Traffic Service

Because much of the City is built-out, the primary traffic issues in Milpitas are the feasibility of improvements and achievement of an acceptable level of service, particularly along two major commute corridors that bisect the city. Areas along the local street system not constrained by available rights-of-way are few.

Level of service (LOS) is a measure of quality of traffic service along a roadway or at an intersection. As described in Table 3-2, it ranges from A to F, with LOS A being best and LOS F being worst. LOS A, B and C indicate conditions where traffic can move relatively freely. LOS D describes conditions where delay is noticeable. LOS E indicates significant delays and traffic volumes are generally at or close to capacity. Finally, LOS F characterizes traffic flow at very slow speeds (stop-and-go), and large delays (more than one minute) with queuing at signalized intersections; in effect, traffic demand on the roadway exceeds the roadway's capacity.

Table 3-2
Traffic Level Of Service Definitions

Level of Service (LOS)	Traffic Flow Conditions	Maximum Volume to Capacity Ratio
A	Describes primarily free-flow operations at average travel speeds, usually about 90 percent of the free-flow speed for the arterial class. Vehicles are completely unimpeded in their	0.6

	ability to maneuver within the traffic stream. Stopped delay at signalized intersections is minimal.	
B	Represents reasonably unimpeded operations at average travel speeds, usually about 70% of the free-flow speed for the arterial class. The ability to maneuver within the traffic stream is only slightly restricted and stopped delays are not bothersome. Drivers are not generally subjected to appreciable tension.	0.7
C	Represents stable operations. However, ability to maneuver and change lanes in midblock locations may be more restricted than in LOS B, and longer queues and/or adverse signal coordination may contribute to lower average travel speeds of about 50 percent of the average free-flow speed for the arterial class. Motorists will experience an appreciable tension while driving.	0.8
D	Borders on a range on which small increases in flow may cause substantial increases in approach delay and, hence decreases in arterial speed. This may be due to adverse signal progression, inappropriate signal timing, high volumes, or some combination of these. Average travel speeds are about 40 percent of free-flow speed.	0.9
E	Characterized by significant approach delays and average travel speeds of one-third the free-flow speed or lower. Such operations are caused by some combination of adverse progression, high signal density, extensive queuing at critical intersections, and inappropriate signal timing.	1.0
F	Characterizes arterial flow at extremely low speeds, below one-third to one-quarter of the free flow speed. Intersection congestion is likely at critical signalized locations, with high approach delays resulting. Adverse progression is frequently a contributor to this condition.	>1.0

Source: *Highway Capacity Manual*, 1985.

CMP Level-of-Service Standards

As required by state law, the Santa Clara County CMP includes level-of-service standards for the designated CMP Roadway System as follows:

- The basic traffic LOS is E;
- The LOS standard for locations with a baseline (1991) LOS F is LOS F;
- The LOS goal for the CMP system is LOS D;
- If the baseline LOS for a CMP System facility was LOS F, then any development project that impacts the facility at or greater than one percent of facility capacity must implement mitigation measures to reduce the development project's impacts below the one percent level or implement the mitigation measures as prescribed in an approved Deficiency Plan. If such a plan is unavailable, the affected cities are required to complete one. Deficiency Plans allow local jurisdictions to implement innovative solutions to transportation problems where specific project mitigation is infeasible and project denial would conflict with other community goals. Deficiency Plans are designed to improve system-wide levels of service and contribute to a significant improvement in air quality.

Traffic Analysis

In order to ensure systematic and reciprocal correlation between the Land Use and the Circulation elements, a forecast of traffic conditions was made that included projected 2010 development, in accordance with current General Plan land use designation. The forecast utilized the City's

transportation forecasting model, which was updated as part of the City's Deficiency Plan Preparation (see City of Milpitas Model Update for the Deficiency Plan, October 1993). The forecast included the County CMA estimates of land use in the year 2010 in all parts of the County outside of the City's Planning Area. In the Planning Area, overall employment projections based on ABAG's Projections '94 were appropriately converted to land uses and distributed based on General Plan designations. The model was used to produce forecasts of peak-hour traffic on the freeways, arterials and many of the collector streets in the City. Results of the traffic analysis are included in Appendix A. Major improvements needed to accommodate these anticipated traffic increases are discussed in Section 3.3

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3.3 Street Network and Classification

A hierarchy of streets will be required to provide access to future development and maintain acceptable levels of service. The circulation network in the General Plan Diagram (Figure 2-1) identifies the functional classifications of key routes. A route's design is determined by the projected traffic level on the street. The classifications, and their required access standards are identified in Table 3-3. Street widths, number of lanes, and the need for on-street parking are to be tailored to individual conditions.

Table 3-3 Street Classifications			
Street Type	Function	Access	Discussion
Freeway	Provides for intra- and inter- regional mobility.	Restricted to primary arterials and expressways via interchanges.	Interstates 880 and 680 and State Route 237 west of 880 are the freeways in the Planning Area.
Expressway	Provide for movement of through-traffic.	Limited access to abutting properties; varies according to situation.	
Arterial	Collect and distribute traffic from freeways and expressways to collector streets, and vice versa.	Varies according to situation.	State Route 237 east of 880 is a signalized arterial being used as a regional freeway to freeway connector.
Collector	Serve as connectors between local and arterial streets and provide direct access to parcels.	Non-residential driveways and/or intersecting streets or collector streets should be no closer than 300 - 400 feet apart.	
Local Street	Provide access to parcels.	Access is not restricted.	Local streets constitute the largest part of the City's circulation system.

Major Improvements Needed

Due to regional through-traffic along sub-regional routes, such as State Route 237 and Montague Expressway, a large increase in traffic by year 2010 is anticipated. To accommodate growth and still maintain an acceptable level of service would require widening sections of these facilities to eight lanes. However, the existing six-lane Calaveras Boulevard cannot be widened to eight lanes,

due to physical constraints. The County CMA is in the process of developing a subregional deficiency plan to improve levels of service on subregional roadways, including State Route 237 and Montague Expressway. The subregional deficiency plan will be finalized by either late 1995 or early 1996.

With the purchase of additional right-of-way, Montague Expressway has the capability to be widened from the existing six-lane facility to an eight-lane facility. However, funding is not available in the foreseeable future. The Santa Clara County Transportation Agency recently installed interconnect cables along Montague Expressway and continues to fine tune the timing plans to provide better progression along the expressway.

A Citywide Deficiency Plan would be required to address the potential, unavoidable downgrading of levels of service at those intersections along Montague Expressway and Calaveras Boulevard included in the congestion management program (CMP) network. The Citywide deficiency plan, will adopt and implement those measures outlined in the countywide subregional deficiency plan. The City Plan could also adopt strategies and policies to encourage non-vehicle mode of transportation (such as bike and transit). Programs that promote ride-sharing, trip-linking, and flexible work hours would also be considered.

Consistency with the Capital Improvement Program

Because of the incremental nature of development, the General Plan does not outline a schedule for the improvements to the City's street system discussed above. Projects identified in the Plan will be prioritized and included in the City's ongoing Capital Improvement Program (CIP). Modifications to the CIP are to be made as a normal part of the City's budgeting and implementation process and do not require amendment of the General Plan.

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3.4 Transportation Systems Management

The term "Transportation Systems Management" (TSM) refers to measures designed to reduce peak-period auto traffic, by making more efficient use of existing transportation resources, and emphasizing ride-sharing and non-auto alternatives. These include public transit, flexible working hours, carpooling and vanpooling, and incentives to increase the use of these alternatives. TSM has become increasingly important in the effort to enhance mobility through efficient use of alternative modes of transportation, and in meeting federal and state air quality standards.

A successful TSM program is an essential and important element in the continuing effort to achieve acceptable levels of traffic service based on the standards in Section 3.2. The specific objectives of TSM are to:

- Reduce peak hour traffic congestion by reducing the number of single-occupant vehicle trips associated with commuting;
- Reduce or delay the need for street improvements by making more efficient use of existing facilities;
- Reduce future air pollution concentrations and strive towards meeting state and federal ambient air pollution standards by reducing the number of single-occupant vehicle trips associated with commuting; and
- Reduce consumption of energy for transportation uses, thereby contributing to the national policy to increase energy self-sufficiency.

Transportation Control Measures

Under the California Clean Air Act (CCAA) of 1988, the Bay Area Air Quality Management District (BAAQMD) is required to prepare a Clean Air Plan (CAP) to achieve state standards for ozone and carbon monoxide. The 1991 CAP must be updated every three years, and will be revised in 1994.

The CCAA states that attainment plans should emphasize reducing emissions from transportation and areawide sources. The Act requires air districts to adopt, implement, and enforce Transportation Control Measures (TCMs). TCMs are defined in state law as "any strategy to reduce vehicle trips, vehicle use, vehicle miles traveled, vehicle idling, or traffic congestion for the purpose of reducing motor vehicle emissions." Although cars are about 90 percent cleaner than they were 20 years ago and fleet turnover will produce the bulk of mobile source emission reductions in the future, the state plan still requires TCMs as a complementary strategy. MTC develops and updates a list of TCMs to the BAAQMD.

The Bay Area is classified as a "serious" non-attainment area with respect to state ozone standards. For "serious" areas, the CCAA requires that the CAP address the following specific performance standards:

- Average vehicle ridership of 1.4 during weekday commute hours by 1999;
- No net increase in motor vehicle emissions after 1997; and
- Substantially reduced rate of increase in vehicle trips and vehicle miles traveled.

The 1991 CAP's TCM plan includes 23 measures to be implemented in two phases. Phase 1 consists of "reasonably available" measures, those that can be adopted in the near term. Phase 2 includes measures that are not expected to be initiated until after the CAP is updated in late 1994. Many Phase 2 measures require additional funding or legislative approval.

In addition, the Bay Area does not attain the state particulate standard which is also more stringent than the federal PM10 standard. However, at this time the CCAA does not include any requirements for particulate non-attainment areas, so no state-level particulate attainment plans, or implementing measures, have been developed.

Bay Area Air Quality Management District Regulation 13, Rule 1. BAAQMD adopted the Rule in December 1992 after a year-long process of public hearings and consultation. The Rule seeks to reduce air pollution emissions from vehicles by reducing their use in traveling to and from work sites. The Rule requires employers with 100 or more employees at work-sites to comply with specific trip reduction requirements.

Although the BAAQMD is legally charged with implementing the Rule, it may delegate implementation and enforcement to local agencies if certain conditions are met. In June 1993 the Santa Clara CMA decided to not seek delegation of the Rule. Thus, employers in the County will be regulated directly by BAAQMD. Because of a substantial overlap between the CMP required TDM ordinances and CAA-required TCM measures, the CMA has determined that member agencies must:

1. Adopt an ordinance indicating that BAAQMD will be implementing the rule in their jurisdiction; and
2. Annually confirm that they have adopted and retained the ordinance. This confirmation would be submitted annually to the CMA as part of the monitoring process.

State law requires Congestion Management Agencies to ensure that their constituent cities adopt and implement a trip reduction and travel demand program. These requirements are included in Santa Clara County's 1993 Congestion Management Program.

Transit

Only three percent of Milpitas's workforce uses public transportation to travel to work (see Table 3-1). The primary function of transit in the City is to transport residents from the City to commercial and employment centers and to other transit stations in surrounding jurisdictions. The bus transfer station and park-and-ride lot, at North Main Street and Weller Lane acts as a hub for most of the bus lines that serve Milpitas. Frequent service (less than 30 minute headway) is offered primarily during peak hours (6 AM to 9 AM and 3 PM to 6 PM on weekdays) while headway increase to 30 minutes or more during the midday, after 6 PM and on weekends and holidays.

The Santa Clara County Transportation Agency (SCCTA) provides bus service for the Milpitas Planning Area. Local bus routes provide service to Mountain View, Sunnyvale, Great America, southeast and east San Jose, and Evergreen College, at average headway of 15 to 30 minutes during commute hours. Service to the Fremont BART station is provided by express buses. Other destinations offered by SCCTA include Los Altos and Moffett Field. Additionally, AC Transit provides lines to the Fremont BART station. Details on transit service are included in Appendix B.

Light Rail. The Locally Preferred Alternative for the Tasman Corridor Project, selected by the Metropolitan Transportation Commission and the Santa Clara County Transportation Agency, would extend the existing light rail in the County through Milpitas. The Eastern Segment of the Tasman Corridor would extend east from the existing terminus of the Guadalupe Corridor near North First Street in the City of San Jose, pass through Milpitas, and terminate just east of I-680 in San Jose. Of the 19 new stations that would be constructed as part of the Tasman Corridor Project, three would be in Milpitas (see General Plan Diagram in Chapter 2).

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3.5 Pedestrian and Bicycle Circulation

The relatively flat topography of the Valley Floor and the City's mild Mediterranean climate are conducive to walking and bicycling. Yet, because of the distance factor and the limited continuous county-wide system, few residents utilize these means of transportation for commuting. Walking and bicycling constituted only about 1.7 percent of the total trips made by City's employed residents in 1990 (see Table 3-1). Measures aggressively promoting and accommodating alternative mode choice should prove to increase this percentage in the future.

Many parts of the City also hold good potential for recreational bicycling. The Planning Area includes about 5 miles of uninterrupted Coyote Creek frontage, which can be developed to include bikeways that are part of a larger regional recreation system. The Hillside offers opportunities for somewhat more challenging pedestrian and bicycle trails. There is also additional opportunities for bike trails along many of the creek channels and the Hetch-Hetchy rights-of-way.

The City's Bicycle Transportation Advisory Committee (BTAC) serves as an advisory body to the City Council on matters relating to planning, modifications and expansion of the City's Bikeway System. BTAC also promotes safety, education and awareness of bicycling issues.

The City has adopted a specific Bicycle Policy on Roadway Design to Accommodate Bicycle Use that provides for expanding the signed Bikeway System by requiring its consideration with all new roadway construction projects. That Policy should be referred to for specific bikeway design guidelines. Where the guidelines of this Policy cannot be adhered to, BTAC will be included in researching the issue with City staff.

Bikeway Classification

The General Plan includes three categories of bikeways as defined in Table 3-4. Existing and planned bikeways are depicted in Figure 3-1.

Table 3-4 Bikeway Classifications		
Classification	Function	Right-of-Way
Class I - Bike Paths	Provide exclusive right-of-way for bicyclists with cross flows by motorists minimized to the extent possible.	Minimum of 8 feet for a two-way facility. The minimum paved width for a one-way bike path is 5 feet. Where pedestrian activity is expected, a minimum of 12 feet for a two-way facility should be provided.
Class II - Bike Lanes	To provide preferential use of the paved area of roadway for bicyclists by establishing specific lines of demarcation between areas reserved for bicycles and motorists.	Class II bike lanes are one-way facilities. On roadways with parking, the bike lane is located between the parking area and the traffic lane with 5-foot minimums for the bike lane. Where parking is permitted and not marked, minimum width is 12 feet. On roadways where parking is prohibited, a minimum of 5 feet is required in Milpitas.
Class III- Bike Routes	To provide continuity of bikeway system along routes not served by Class I or Class II facilities. Class III facilities are shared facilities, either with motor vehicles on the street or with pedestrians on sidewalks. Unless specifically prohibited by a street sign, all streets under City jurisdiction will serve as Class III facilities.	On collector streets where parking is permitted, a minimum 20 foot curb lane shall be provided to accommodate a properly signed bike route. Specifically designated bike routes are not required for residential streets.

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3.6 Goods Movement

Providing adequate circulation for trucks is necessary for economic development of the City by facilitating transportation of goods and products. In Milpitas, there is a four ton weight limit restriction on all streets, except those shown on Figure 3-2. Therefore, by default, through truck traffic can only utilize the exempted streets, which can be referred to as "truck routes." The routes shown in the Figure serve as primary commercial truck movements entering and leaving the City. Trucks, however, can use any street to get to and from specific delivery locations when a restricted street is on the direct path to the origin or destination and there is no other permitted facility.

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Truck Routes

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3.7 Circulation Principles and Policies

◆ a Standards for Traffic Safety

Guiding Principles

3.a-G-1 Continue to utilize the City's adopted Level of Service standards in evaluating development proposals and capital improvements. - *Current City LOS standards apply only to development east of I-880.*

3.a-G-2 Maintain acceptable service standards for all major streets and intersections.

Implementing Policies

3.a-I-1 Strive to maintain CMP LOS standards and goals for the CMP Roadway System in Milpitas.

3.a-I-2 For collectors and arterials east of Interstate 880 operating at baseline (1991) LOS F, require any development project that impacts the facility at or greater than one percent of facility capacity to implement mitigation measures to reduce the development project's impacts below the one percent level. If an identified location cannot be mitigated, measures designed to improve system-wide levels of service can be implemented. These system-wide improvement strategies will be contained in the Citywide Deficiency Plan. - *Conforms to CMA requirements and existing City LOS policy.*

3.a-I-3 Recognize that the City's development pattern and deficiencies in the regional network has resulted in substandard service levels on certain streets where capacity cannot be increased.

3.a-I-4 On streets where substandard service levels are anticipated, investigate and implement improvement projects which will enhance traffic operations. - *Measures such as parking prohibitions, turn prohibitions and minor widening should be evaluated on streets where existing development and space constraints make major widening projects infeasible.*

Streets expected to operate at LOS F at Plan buildout are:

◆ *Route 237 between Abel Street and the southern Pacific railroad tracks; and*

◆ *Montague Expressway between McCarthy Boulevard and Old Oakland Road , and between Capitol Avenue and Highway 680.*

3.a-I-5 Continue to monitor traffic service levels and implement Circulation Element improvements prior to deterioration in levels of service to below the stated standard. - *Development approvals should require demonstration that traffic improvements necessary to serve the development without violating the standard will be in place to accommodate trips generated by the project.*

◆ b Street Network and Classification Principles and Policies

Guiding Principles

3.b-G-1 Develop a street network integrated with the pattern of living, working and shopping areas, and which provides for safe, convenient, and efficient vehicular movement within the City and to other parts of the region.

3.b-G-2 Direct special consideration toward the circulation needs of a modern, convenient

central business district, including adequate off-street parking.

3.b-G-3 Promote a street pattern which encourages industrial growth.

3.b-G-4 Use the "Major Improvements Needed" sub-section as a basis for identifying, scheduling, and implementing roadway improvements as development occurs in the future.

Implementing Policies

3.b-I-1 Require new development to pay its share of street and other traffic improvements based on its impacts.

3.b-I-2 Require all projects that generate more than 100 peak-hour (A.M. or P.M.) trips to submit a transportation impact analysis that follows guidelines established by CMP. - *This is part of the CMP requirements.*

3.b-I-3 As part of the Capital Improvement Program (CIP), annually update a five-year program of projects required to construct and/or update circulation facilities. - *While some of the projects identified in the Circulation Element are in the City's current CIP, the remaining projects will need to be incorporated.*

3.b-I-4 Continue to actively seek funding from regional, state and other agencies for projects identified in Table 3-4 and others included in the City's CIP.

• c Transportation Systems Management

Guiding Principles

3.c-G-1 Promote measures that increase transit use and lead to improved utilization of the existing transportation system.

3.c-G-2 Cooperate with other agencies to promote local and regional transit serving Milpitas.

Implementing Policy

3.c-I-1 Actively support regional planning efforts for the development of mass transit facilities generally along either the Union Pacific or Southern Pacific Railroad corridors.

• d Pedestrian and Bicycle Circulation Principles and Policies

Guiding Principles

3.d-G-1 Provide a system of sidewalks and bikeways that promotes safe walking and bicycle riding for transportation and recreation.

3.d-G-2 To the greatest extent possible, arterial streets will incorporate bike lanes; collector streets will incorporate bike routes or lanes; residential streets do not require special treatment, but roadway construction shall promote safe bicycling.

3.d-G-3 Encourage efforts that lead to an increase in the proportion of pedestrian and bicycle trips for work and non-work-related travel.

3.d-G-4 All roadways shall be usable for both automobile and bicycles.

3.d-G-5 Appropriate design considerations will be incorporated in all new roadways and in right-of-way changes to existing roads to further expand the bikeway system promoting safety and minimizing conflicts.

Implementing Policies

3.d-I-1 Continue involvement of the BTAC as an advisory body to the City Council on matters affecting modification and expansion of the City's bikeway system.

3.d-I-2 Implement the bikeway system depicted in Figure 3-1 by:

- Adding bike lanes whenever possible in conjunction with road reconstruction or re-striping projects in accordance with the adopted Bicycle Policy.

- Improving existing crossings and providing for future crossings of creeks, railroads and roadways; and

- Developing bicycle facilities along creek channels.

- Providing bicycle sensitive loops at all future and any retrofitted signalized intersections in accordance with the adopted Bicycle Policy.

- Promoting the installation of bike lockers and/or racks within commercial and employment areas.

- Working with the County and other agencies to implement a regional bikeway system.

3.d-I-3 Where feasible, provide dedicated bike paths and/or bike lanes.

3.d-I-4 Provide for bicycle funding by:

- Incorporating bikeway improvements as part of the City's Capital Improvement Program associated with street widening projects.

- Pursuing funding for new bikeways to the extent possible under federal and state law.

As part of MTC's Draft 1994 Regional Transportation Plan, \$43 million is available for bicycle and pedestrian improvements in the region over the next 20 years. Improvements are to be determined by local agencies through their own planning processes. Other sources for funding include the State Bicycle Lane Account, which is funded by gasoline tax and is administered by the Division of Transportation Planning, Office of Regional Planning.

3.d-I-5 Provide secure bicycle parking at all public buildings and parks. - *The City is installing some bicycle lockers (at key locations) and racks at the Civic Center, the Sports Center and City parks.*

3.d-I-6 Require sidewalks on one side of the street in industrial areas, and on both sides for all other areas as a condition of development approval.

- **e Goods Movement**

Guiding Principles

3.e-G-1 Provide adequate circulation and off-street parking and loading facilities for trucks.

Implementing Policies

3.e-I-1 Restrict trucks to designated non-restricted routes. - *Truck routes in the City are regulated by Section V-100.12.05 of the Municipal Code.*

3.e-I-2 Ensure that adequate pavement depth, lane widths, bridge capacities, loading areas, and turn radii are maintained on the permitted streets.

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CHAPTER 4

Open Space & Environmental Conservation Element

◆ Purpose

According to state law, the purpose of a Conservation Element is to assure the conservation, development and use of natural resources including water, forests, soils, rivers, fisheries, wildlife, minerals and other natural resources. Similarly, the purpose of an Open Space Element is to assure the continued availability of land for the managed production of resources (such as food and fiber), to protect the enjoyment of scenic beauty and ensure provision of recreation, to identify and preserve lands whose indiscriminate development could compromise public health and safety, and to preserve natural resources.

State law also requires that an Open Space Element contain an action program consisting of specific programs to implement the open space plan. Milpitas' open space action plan is the sum total of the open space and conservation policies in this Element of the General Plan and the open space proposals depicted on the General Plan Land Use Diagram.

◆ Relationship to Other Elements

The Open Space and Environmental Conservation Element is correlated with the Land Use Element which designates park and open space areas

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- [4.9 Open Space/Conservation Principles and Policies](#)

4.1 Parks and Recreational Facilities

Inventory and Classification

Existing parks and recreation facilities are summarized in Table 4-1. As of early 1994, the Planning Area included 153.4 acres of City-owned park and recreation facilities and 1,544 acres of the Ed Levin Park, part of which is within City limits. Definitions of the General Plan park classifications follow.

Community Parks. Community Parks typically contain regulation-size ballfields and courts, space for informal games and activities, picnic and gathering areas, children play areas and parking. The only existing community park, the 24.4 acre Sports Center, serves as a special-use facility because it contains sports fields and facilities.

Neighborhood Parks. Neighborhood parks in the City fall into two categories: typical walk-to parks that serve the immediate neighborhood, providing open space for informal play, and parks containing a community-use facility, such as a regulation size, prepared ballfield. In addition to serving the immediate neighborhood, the latter category also draws people from the larger community, some of whom may drive to the facility. The City's current inventory includes 43.3 acres of neighborhood parks.

Special-use Parks. This category includes mini-parks, linear parks, flood retention areas, Community Garden, Senior Center, Rancho Milpitas Middle School Ballfield, and Community /Civic Center. A total of 13 acres of the City's inventory consists of special-use parks.

Regional Parks. Regional parks are generally larger than 100 acres in size and serve the entire City or the region. While regional parks can provide for varying degrees of recreation activity, a portion of the park is generally maintained in a rustic setting for passive recreation use. While a number of regional parks serve Milpitas residents, the Planning Area includes only one such facility, the Ed Levin County Park.

There are no established, signed trails under City jurisdiction. However, the Ed Levin Park contains an extensive trail system.

Other Facilities in the Planning Area include:

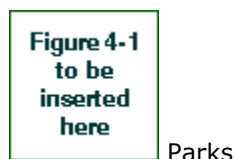
School Parks. The City has a joint-use agreement with the Milpitas Unified School District (MUSD) that allows mutual use of facilities at a reduced rental rate. The City also provides recreation staff to assist in the District's latchkey program. Renegotiation of the joint-use agreement will take place in 1994.

Private Recreation Facilities. Besides parks and recreation facilities listed above, private recreation facilities in the Planning Area include: the YMCA, Bayhill Athletic Club, South Bay Athletic Club, Golfland, Cal Skate, Summitpoint Golf Course, Spring Valley Golf Course, and Divot City.

Table 4-1	
Inventory of Park Acreage by Type and Facility¹	
Type/Name	Acreage
REGIONAL PARKS	
Ed Levin Park	1,544
Alum Rock Park ²	775
Sunnyvale - Santa Clara Baylands Park ²	280
Mission Peak regional Preserve ²	1,875
S.F. Bay National Wildlife Refuge ²	19,600
Total Regional	24,075
COMMUNITY PARK	
Sport Center	24.4
Community Park Total	24.4
NEIGHBORHOOD PARKS	

Creighton Park	5.0
Foothill Park	4.0
Hillcrest Park	5.2
Sandalwood Park	3.5
Sinnot Park	4.7
Starlite Park	4.0
Strickroth Park	5.7
Al Augustine Park	6.0
Walter Reuther Park	5.2
Neighborhood Park Total	43.3
NEIGHBORHOOD PARKS WITH COMMUNITY FACILITY	
Ben Rodgers Park	9.5
Cardoza Park	10.0
Dixon Landing Park	11.0
Gill Park	8.5
Hall Park & Lagoon	9.5
Higuera Adobe Park	5.5
Murphy Park	8.7
Pinewood Park	8.0
Yellowstone Park	4.0
Neighborhood w/facility Total	74.7
SPECIAL USE PARKS	
Mini Parks	3.2
Flood retention area / Hidden Lake Park / Hall Park Drainage	2.5
Community Garden	1.2
Senior Center	0.1
Rancho Milpitas Middle School ballfield	1.0
Community Center/Civic Center	3.0
Special Use Parks Total	13.0
Total City Park Acreage	153.4
¹ All neighborhood parks contain at least one, and in some cases, two tot/youth play equipment areas. ² Regional Parks outside the Planning Area serving City residents. Source: City of Milpitas, 1994.	

Existing and future public parks are depicted in Figure 4-1.



Parks

Current Plans

A Park and Recreation Facility Needs Study for the City was completed in April 1993. The study identified the need for several additional facilities and called for preparation of a Park and Recreation Master Plan. While funds for preparation of the plan have been authorized, further action on the plan awaits direction from the City Council.

Facilities Under Development. Facilities currently under development include the Sports Center, which has an expected completion date of 1997. Currently the plaza, landscaping, lighting and gymnasium renovation are the phases either under design or construction. Cardoza Park east parking lot and picnic area will be renovated in 1993.

Standards To guide implementation of park and recreation proposals, standards relating to park size, distribution, and primary service area are established in the General Plan (Table 4-2). Figure 4-1 (above) depicts areas of the City within a 3/8-mile service radius of a neighborhood or

community park.

Table 4-2
Park Standards for New Facilities

	Neighborhood Parks	Community Parks
Distribution (acres/1,000 residents)	5 acres for neighborhood and community parks	
Park Size	4 to 10 acres	15 to 30 acres
Service Area Radius	3/8 mile	entire City

Future Need Current General Plan designations at buildout would result in a population increase of approximately 3,000, or a need for 15 acres of new community and neighborhood parks. If General Plan amendments lead to an increase in supply of land designated for residential use, the need for new parkland will also increase.

The *Park and Recreation Facility Needs Study* identifies a need for a new community park, group picnic facilities, classroom/meeting space, sports practice facilities, trails, a performing/visual arts center, an historical museum and a gymnasium.

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4.2 Biotic Resources

The Planning Area and the surrounding region offer a variety of wildlife habitats, such as marshlands, riparian areas, grasslands and woodlands. While much of the City is built-out, species supported by habitats such as Coyote Creek, salt marsh and mud flats to the west and the rolling hills of Ed Levin Park and beyond to the east include the California coastal deer, gophers and water snakes, as well as rattlers, songbirds such as the mocking bird and the red-winged blackbird, upland game birds, pheasant, quails and doves, squirrels, and bobcats. Fish species found include bass, catfish, trout and other non-game species which may be found in the Calaveras Reservoir (east of the Planning Area), Sandy Wool Lake, periodically in Coyote Creek, and impounded waters within the foothills.

Special Status Species in the Planning Area

Certain species are recognized as needing special protection under state and federal law due to their rare, endangered, or threatened status. These species are afforded varying degrees of protection through the applicable laws and regulations of the Federal Endangered Species Act (ESA), the California Native Plant Protection Act (NPPA), the California Endangered Species Act (CESA), and the California Environmental Quality Act (CEQA).

The California Natural Diversity Data Base (CNDDDB), run by the California Department of Fish and Game (CDFG), is the most complete single-source inventory of officially (state and federal) listed rare, endangered, and threatened animals and plants, plus those considered by the scientific community to be deserving of such listing. A March 1994 search of the CNDDDB established the known presence of only one endangered species (the salt marsh harvest mouse) and one "species of special concern" (the golden eagle) in the Planning Area. No rare or threatened species were found. The CNDDDB also inventories both terrestrial and aquatic natural communities that are of extremely high quality and/or very limited distribution; no such communities were found in the search.

The California Native Plant Society's (CNPS) *Inventory of Rare and Endangered Vascular Plants of California*, 1994 for the Milpitas and Calaveras Reservoir quads was also consulted. The inventory contains a list of plants presumed extinct in California, Rare and Endangered plants in California and elsewhere, Rare and Endangered plants in California but more common elsewhere, plant

species for which more information is needed, and plants of limited distribution. Only one of the plant species listed by the CNPS (the alkali milk vetch) has been found in the Planning Area.

The results of the CNDDDB and the CNPS search are summarized in the Appendix C. The appendix also contains a listing of sensitive species in Santa Clara County - the presence of most has not been established in the Planning Area.

A brief discussion of the species known to occur within the Planning Area follows (Figure 4.2 shows the potential general location of these species):

Salt Marsh Harvest Mouse (*Reithrodontomys raviventris*). Listed as Endangered at the state and federal level, the salt marsh harvest mouse is confined to salt marshes about the Bay. The salt marsh harvest mouse is commonly associated with dense growth of pickleweed.⁽¹⁾ A non-burrowing mammal, it requires higher areas for flood escape. While the salt marsh harvest mouse has been sighted primarily west of the Planning Area in the marshes along Alviso Slough, Albrae Slough and Coyote Creek, one capture occurred at the San Jose-Santa Clara sewage disposal site and another two miles south of Fremont between Coyote Creek and the Nimitz Freeway in 1985.

(1) Jameson and Peters. California Mammals. University of California Press, Berkeley, 1988.

Golden Eagle (*Aquila chrysaetos*) A species of Special Concern for the CDFG, the golden eagle is found in rolling foothills or coast-range terrain, where wide open grassland turns to scattered oaks, sycamores or large digger pines. Nesting habitat can be found in cliff-walled canyons or large trees in open areas. In May 1993, two juvenile Golden eagles were banded at the upper end of Calera Creek, within the Ed Levin County Park. This is the only known site within the Planning Area.

Alkali Milk-Vetch (*Astragalus tener vartener*) Listed as Rare by CNPS, the alkali milk-vetch is found in valley and foothill grassland, and vernal pools. The CNPS notes this species as being endangered in a portion of its range, endemic to California and that its "occurrence [is] limited to one or a few highly restricted populations or present in such small numbers that it is seldom reported." The alkali milk-vetch was recorded in southern Milpitas in the region bounded by Calaveras Boulevard to the north, Dempsey Road to the east, Capitol Avenue to the South and the Nimitz Freeway in the west. Although presumed extant according to CNDDDB, the last sighting was in 1905.

Figure 4-2
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Sensitive Biotic Resources

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4.3 Agricultural Resources

For background information and policies relating to soils in the Planning Area, see Section 5.1: Geology, Soils and Seismic Hazards.

Important Farmland

As part of the Farmland Mapping and Monitoring Plan (FMMP), the State Department of Conservation employs the Important Farmlands Inventory to classify farmland as prime, of statewide importance, unique, or of local importance based on data provided by the U.S. Soil Conservation Service (SCS) and the state Department of Water Resources (DWR). Classification of land as prime or of statewide importance is determined by the soil type as well as current land

use. The Farmland Mapping and Monitoring Program does not classify publicly owned land for which there is an adopted policy preventing agricultural use.

Categories of farmland employed by the FMMP(1) include:

Prime Farmland: Land which has the best combination of physical and chemical characteristics for the production of crops.

Unique Farmland: Land of lesser quality soils used for the production of specific high economic value crops.

Farmland of Local Importance: Small orchards, primarily in the foothill area.

Grazing Land: Land on which the existing vegetation is suited for the grazing of livestock.

While urbanization has resulted in loss of a considerable amount of farmland in the Planning Area, the Area does include some important farmlands. Figure 4-3 depicts farmland of prime, unique, and local importance in the Planning Area; there is no farmland of statewide importance in the Planning Area. As can be seen in the figure, farmland along the Coyote Creek is prime.

Crops in the Planning Area

A small part of the Planning Area, along the Coyote Creek, is used for growing a variety of truck and berry and field crops(2). These include peppers, lettuce, squash and melons, and corn. Figure 4-4 shows crops in the Planning Area according to type.

(1)Department of Conservation, Office of Land Conservation, Santa Clara County: Important Farmland (1992).

(2)1990 Land Use, Santa Clara County. State Department of Water Resources, 1990.

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Important Farmlands in 1992

Figure 4-4
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Crops in 1990

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4.4 Water Quality and Conservation

For water supply, see Section 2.6: Public Utilities and Services.

Non-Point Source Pollution Prevention

Concerns about water quality have evolved from early efforts to control the most visible problems, such as discharge of raw sewage, to today's attention to toxic discharges. Water pollution is a concern because of potential health effects as well as of the effects of discharged pollutants on aquatic life. The Planning Area falls under the authority of the San Francisco Bay Regional Water Quality Control Board (RWQCB), one of the nine such boards in the state.

The U.S. Environmental Protection Agency has identified urban storm water runoff as the leading cause of water pollution. Furthermore, both federal and state agencies have identified storm water runoff from the City, among others, as a major source of pollution impacting the South Bay. As a result, the RWQCB has a National Pollutant Discharge Elimination System (NPDES) permit requiring the City of Milpitas, among others, to establish legal authorities sufficient to protect its storm drain system from certain prohibited discharges. The City is also required to implement a Storm Water Management Program to assure that storm water runoff from the City does not cause or contribute to a violation of the water quality standards of the South Bay. Storm water drainage is discussed in Section 5.2.

Water Conservation

Prompted by the recent drought and water shortages, the City in 1993 adopted a Water Efficient Landscapes Ordinance. The Ordinance seeks to promote conservation and efficient use of water by restricting new and rehabilitated landscaping for public agency projects, private commercial and industrial projects, and common-area landscaping in single-family and multifamily subdivisions and planned unit developments to maximum applied water allowances. It also requires preparation of landscape documentation packages for new and rehabilitated landscapes.

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4.5 Mineral Resources

Urban preemption of prime mineral deposits and conflicts between mining and other uses throughout California led to passage of the Surface Mining and Reclamation Act of 1975 (SMARA), which establishes policies for conservation and development of mineral lands, and contains specific provisions for the classification of mineral lands by the State Geologist.

SMARA requires all cities and counties to incorporate in their general plans mapped designations approved by the State Mining and Geology Board. These designations are to include lands categorized as Mineral Resource Zones, the most significant of which is a designation of mineral resources that are of regional or statewide significance.

When considering mineral extraction, three critical factors must be weighed: impact upon the natural environment, regional need for the minerals extracted, and impacts upon the community.

Existing Mineral Resources The Planning Area contains four areas identified by the State Geologist as containing Regionally Significant Construction Aggregate Resources. These areas, located in the foothills outside City limits (see Figure 4-5), are part of the South San Francisco Bay Production-Consumption Region and contain sandstone deposits. Three of the sites are located west of the Ed Levin Park along Tularcitos and Loa Caches creeks, and the fourth is along Scott Creek at the County line. All of the areas are being currently quarried.

The scenic damage that has already occurred from these quarry operations is readily apparent; it is also possible for such activities to adversely affect water resources. In addition, these quarries must haul many tons of product off-site. When the only means of transportation for the product is by trucks passing through urbanized areas and transversing narrow hillside roads, there are a great many impacts upon the community.

Santa Clara County Policies

Santa Clara County's Mineral Resources Element was prepared in 1988. Policies included in the Element call for new quarry operations within a city's Sphere of Influence to be consistent with that City's General Plan. Approval of new or significant expansion of existing operations would require environmental assessment and new operations that are visible from the Valley Floor are discouraged.

Figure 4-5
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Mineral Resources

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4.6 Historical and Cultural Resources

Background information that follows is summarized from the *Historic Sites Inventory (1990)* and the *Historic Resources Master Plan (1993)*.

Prehistoric Period

The lands now occupied by the City of Milpitas were once a part of the home territory of the Tamyen tribelet of Costanoan (Ohlone) Indians. Like other Costanoan groups, the Tamyen maintained a few year-round village sites but also visited various temporary camps at different seasons of the year to hunt and gather food as it became available.

The presence of a deposit of cinnabar (later famous as the mines of New Almaden) within Tamyen territory increased traffic through the early Milpitas area. The cinnabar (used as a body paint) stimulated considerable trade. The deposits were known over much of northern California, and parties from as far away as the Columbia River journeyed to Costanoan territory to obtain it. Trade for other items such as wooden bows, salt, and pine nuts, also brought many visitor to the Tamyen territories.

Remnants of Lifestyle. Two notable Costanoan village sites lie within the city limits of Milpitas. One, a huge shellmound near the present-day Elmwood Rehabilitation Center, was discovered in 1949 and dates back to the eighteenth century. The other, on the site of the Alviso Adobe near the corner of Calaveras and Piedmont, is at least 3,000 years old and is one of only a handful of archaeological sites in California with such a long history of continuous occupation.

Historic Period

Aboriginal Milpitas must have been criss-crossed with a network of paths from village to village and from village to camp. For centuries, these aboriginal footpaths and deer trails were the only roadways of Milpitas. The year 1769 marked the most dramatic event since human beings first migrated into the Bay Area; in that year, the expedition of Gaspar de Portola inaugurated the historic era, bringing in its wake a host of changes. The expedition passed through Milpitas.

The Spanish presence in the South Bay region was rapidly modified over the next few decades. Over the following half-century, the mission holdings were broken up by secularization, supplanted by private land grants such as the Rancho de Milpitas.

The area that was to become Milpitas was already achieving distinction as a stopover point by the late 1840s when the Higuera Adobe welcomed travelers on the immigrant trail between Sutter's Fort and San Jose, via Livermore Pass. In 1855, settlers in the Calaveras Valley petitioned for a county road across the flats to Alviso. The resulting intersection - where the Alviso Road crossed the Mission Road - encouraged the development of Milpitas. By the late 1850s, a stage line was operating between San Jose and Oakland, with stops at Milpitas, including one at the Higuera Adobe, operating as a hotel and stage depot. Soon businesses such as general stores, stables, saloons, hotels, blacksmiths, carriage shops, and the all-important post office catered to the needs of farming families.

Historic Sites. The historically and architecturally significant buildings in Milpitas are extremely diverse in style, as well as in method and period of construction.

The first structures to be built in Milpitas were adobe houses located along the foothills east of town (now east of Piedmont and Evans Road) and along both sides of Calaveras Road between Main Street and the foothills. During the 1850s to 1870s, many frame farmhouses were constructed.

Businesses that catered to travelers (saloons, restaurants, blacksmiths, service stations, and hotels) and those that supplied the local population (general stores, meat markets, lumber yards) developed near the intersection of the Alviso-Milpitas Road and the San Jose-Oakland Road. Clustered around this nucleus of commercial and service buildings were the homes of the merchants, railway employees, and working men of the community.

Milpitas changed little until 1953, when the Ford Motor Plant was built at the south end of town. Within the next two decades virtually all of the older buildings in the center of town were demolished; leaving two corridors along the eastern foothills and the western highway fairly intact.

Historical and Cultural Resources Preservation Programs

Cultural Resources Preservation Program. Procedures to identify and designate historical and cultural resources, and to guide their preservation are outlined in the City's Zoning, Planning and Annexation Code. Cultural resources and historic districts are designated by the City Council on the advice of the Parks, Recreation and Cultural Resources Commission.

Recognized Historic Sites. Currently, there are thirteen sites (four of which have no historic structures on them) officially designated as Cultural Resources. The *Historic Resources Master Plan* (1993) identified the following six Cultural Resource sites and two historic sites listed in the Historic Sites Inventory as "prime" candidates for preservation:

- the Milpitas Grammar School/Senior Center, listed in the National Register of Historic Places, and
- the DeVries/Smith Home;
- Campbell's Corners;
- the Caudillo House;
- the Weller/Curtner Estate;
- the Laguna School;
- the Higuera Adobe; and
- the Alviso Adobe.

The Master Plan also identified the two adobes as being eligible for the states' Historic Landmark or Point of Historical Interest status.

Historic Commercial District. In October 1975, the City designated a portion of the area along Main Street near Calaveras Boulevard as an Historic Commercial District. Architectural guidelines and standards are intended to produce an "early California" theme.

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4.7 Scenic Resources and Routes

Milpitas' image is of an urban community located at the foot of a significant section of the Mount Diablo Range. The foothills, sparsely settled, represent a semi-wilderness of rugged terrain, remote plateaus and distant views.

Scenic Resources

The foothills and the tree-lined Coyote Creek corridor provide Milpitas with a scenic backdrop and visual reference points. Also important to Milpitas' identity are the major entryways of the City.

Scenic Resources could be both natural and man-made. Figure 4-6 identifies hillsides, ridges, visually significant vegetation and other elements that are critical in shaping the City's scenic identity.

Scenic Routes

In order to maintain and improve the character of and views of scenic resources from streets, maximize access to parks, open space and other resources, the General Plan establishes a well-integrated network of Scenic Routes. These are streets or corridors which pass through an area of scenic value, provide efficient connections between such areas, or provide distant views of Scenic Resources. Two types of Scenic Routes are established (see Figure 4-6):

Scenic Corridor. Scenic Corridors are located along designated streets that pass through an area of scenic value. Scenic Corridors include the street rights-of-way and extend 200 feet from the center line of the streets along which they are located. Areas within the corridors are subject to special development controls for the purpose of retaining and enhancing nearby views or maintaining unobstructed distant views. Public projects will also be reviewed for compliance with this plan.

Scenic Connector. A designated street connecting or providing access to Scenic Corridors or distant views. A Scenic Connector may not necessarily traverse an area of scenic value, and the abutting land is not subject to the Scenic Corridor land use controls. However, special design treatment - which may include roadside landscaping, undergrounding of utility lines, and street furnishings - will be carried out to provide a visual continuity with the Scenic Corridors.

Figure 4-6
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Scenic Resources and Routes

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4.8 Waste Management and Recycling

The City of Milpitas and Santa Clara County Integrated Waste Management Plans (IWMP) comply with state-mandated waste reduction goals specified in Public Resources Code 40500 (Assembly Bill 939). PRC 40500 requires local agencies to implement source reduction, recycling, and composting activities to reduce solid waste generation by 25 percent by the year 1995, and by 50 percent by the year 2000.

As a part of PRC 40500, each city and county is required to prepare a Source Reduction and Recycling Element (SRRE) and a Household Hazardous Waste Element (HHWE). Together, the SRRE and HHWE comprise the City's IWMP.

Solid Waste Disposal Facilities

Newby Island landfill, located on Dixon Landing Road in San Jose serves the City. It is a Class III landfill, with an estimated lifespan of an additional 28 years (to 2021). There are no current proposals for expansion of the landfill.

Source Reduction and Recycling

The City's *Source Reduction and Recycling Element* provides a summary and analysis of existing and needed source reduction, recycling, and composting programs and facilities, strategies for handling special wastes, and for funding. Implementation measures for both short (next 5 years) and medium term (next 10 years) are specified and include multifamily residential and non-

residential recycling, public awareness, and regulatory programs. Implementation measures outlined in the Element are expected to lead to diversion of an estimated 13.6 to 19.5 percent of the waste stream by 2000.

Goals adopted as part of the City's *Source Reduction and Recycling Element* include:

- Meet or exceed state-mandated solid waste disposition rates by maximizing source reduction, recycling and composting opportunities for Milpitas residents and businesses;
- Motivate the residential and business sectors to reduce and recycle solid waste;
- Ensure that all land development projects provide adequate space and design for waste reduction and management activities and equipment;
- Encourage the development and expansion of local and regional markets for diverted materials;
- Provide solid waste management services that minimize environmental impacts, ensure public health and safety and facilitate waste reduction efforts; and
- Increase residents' awareness of proper disposal and reduction methods for wastes.

Hazardous Waste

Hazardous materials management includes the identification, proper transport, and disposal of hazardous materials. Hazardous materials include liquids, solids, and gases which by themselves, or when placed in contact with other materials, can result in contamination of soil or water, poisonous vapors, fires, or explosions. Hazardous materials can enter the environment via air, soil transport, or surface runoff. Improper storage or disposal can contaminate soil and groundwater and pose a general health hazard to the population. Hazardous materials are used and created everyday by some industries, and include common household items such as insecticides, waste motor oil, and cleaning fluids.

Nearly all of the hazardous materials transported through Santa Clara County, and the Planning Area, are carried by truck on the freeways and state highways. Little or none of the hazardous materials is transported through via rail. County roads and city streets are used to transport locally generated wastes from the source to the regional highway system.

Household Hazardous Waste (HHW)

Hazardous materials, used in many household products (e.g., drain cleaners, waste oil, cleaning fluids, insecticides, and car batteries), are often improperly disposed of as part of normal household trash. These materials can interact with other chemicals to create a risk to the general population and can also result in soil and groundwater contamination.

Since 1985, Milpitas residents have had access to disposal of their HHW. Funded by the City from the General Fund, the current program is conducted by the Santa Clara County Household Hazardous Waste Collection Program. The County hosts mobile pickup at different sites throughout the County, twice yearly in Milpitas. Residents call the County HHW program hotline to make appointments to drop off their hazardous wastes, and the City pays a per-vehicle fee for the service.

The City has since October 1993 been participating in a countywide effort to site and develop permanent recycling and disposable facilities for HHW. These facilities, currently in the planning stages, will also serve small commercial generators of hazardous waste.

The objectives of the City's *Household Hazardous Waste Element* are:

- Provide disposal alternatives for HHW generated in the city, including participation in the County of Santa Clara's HHW program;
- Undertake educational programs to reduce the volume and hazards of HHW entering the waste stream by encouraging proper use and disposal of hazardous products, and waste reduction, including the use of safer alternatives;
- Promote proper storage and handling methods to protect the public's health and safety;
- Recycle HHW to the extent possible; and
- Participate in the load inspection program at the Newby Island landfill.

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4.9 Open Space/Conservation Principles and Policies

● a Park and Recreational Facilities

Guiding Principles

4.a-G-1 Provide a park and recreation system designed to serve the needs of all residents of the community.

4.a-G-2 Develop a diversified trail system along streamsides and other public rights of way to provide recreational opportunities and link facilities.

4.a-G-3 Cooperate with other agencies, such as the County and MUSD, to provide recreational opportunities to residents.

Implementing Policies

4.a-I-1 Provide 5 acres of neighborhood and community parks for every 1,000 residents.

This is the current City standard.

4.a-I-2 Require land dedication or in lieu fees equivalent to the 5 acre/1,000 resident standard, but allow credit for private open space for up to 2 acres/1,000 residents for private open space provided in accordance with the criteria specified in the Subdivision Regulations.

4.a-I-3 Provide a system of hiking and riding trails and pathways connecting the Valley Floor Area to Ed Levin Park.

4.a-I-4 Explore the feasibility of a trail in the Hillside Area within the crestline zone of protection connecting Ed Levin County Park to Alum Rock Park.

4.a-I-5 Provide an extensive visually stimulating system of "people paths" by developing park chains along Coyote River and the Hetch Hetchy right-of-way.

4.a-I-6 Develop the Coyote River area in cooperation with the County Park and Recreation Commission in a linear park chain which would connect with the Coyote Park Chain in San Jose and provide a safe mechanism for undertaking flood-control measures. The trails along Coyote Creek should be part of the San Francisco Bay Trail, a regional network of trails used by hikers and bicyclists.

4.a-I-7 Where feasible, provide new neighborhood and community parks adjacent to public schools for joint use.

4.a-I-8 Explore the feasibility of providing interpretive trails that tie in with the history of Higuero Adobe and Alviso Adobe.

4.a-I-9 Explore the feasibility of providing a performing/visual arts center, an historical museum and a gymnasium.

4.a-I-10 Prepare a Park and Recreation Master Plan.

◆ b Biotic Resources

Guiding Principles

4.b-G-1 Protect and conserve open spaces which are necessary for wildlife habitats and unique ecological patterns.

4.b-G-2 Preserve and protect populations and supporting habitat of special status species within the Planning Area, including species that are state or federally-listed as Rare, Threatened, or Endangered, all federal "candidate" species for listing and other species proposed for listing, and all California Species of Special Concern.

Implementing Policies

4.b-I-1 Strictly enforce grading regulations controlling removal of vegetative cover from hillside areas.

4.b-I-2 Preserve remaining stands of trees.

4.b-I-3 Recreation use of essentially virgin areas should be centered around activities which have a minimally disruptive effect on natural vegetation

4.b-I-4 Require a biological assessment of any project site where sensitive species are present, or where habitats that support known sensitive species are present.

4.b-I-5 Utilize sensitive species information acquired through biological assessments, project land use, planning and design.

◆ c Agricultural Resources

Guiding Principles

4.c-G-1 Support agricultural activity that is compatible with urban uses, and as an interim use in areas that are designated for urban uses.

Implementing Policies

4.c-I-1 While undertaking improvements in areas being used for agricultural operations, strive to ensure that the viability of agriculture as an interim used is maintained. - *With the exception of the foothills, most of which are classified as grazing land, the General Plan Diagram designates all other farmland in the Planning Area for urban uses. Extension of the McCarthy Boulevard north of State Route 237 will open the last remaining sites being used for agricultural operations for urban uses.*

4.c-I-2 Permit and support grazing activity in the foothills where feasible.

◆ **d Water Quality and Conservation**

Guiding Principles

4.d-G-1 Protect and enhance the quality of water resources in the Planning Area.

4.d-G-2 Promote conservation and efficiency in the use of water.

Implementing Policy

4.d-I-1 Continue implementing the National Pollutant Discharge Elimination System (NPDES) requirements of the Regional Water Quality Control Board. - *This is implemented through Chapter 16 of the City's Zoning Ordinance.*

◆ **e Mineral Resources**

Guiding Principles

4.e-G-1 Provide for extraction of minerals to help meet future regional needs in an environmentally sensitive manner.

Implementing Policies

4.e-I-1 Manage aggregate resources to ensure that extraction results in the fewest environmental impacts. - *Mining is usually a high-impact activity that must adjust its operations to become an acceptable neighbor to urban areas.*

4.e-I-2 Require preparation and assured implementation of adequate reclamation of mined lands as a condition of approval of mining. - *This is a requirement of SMARA.*

4.e-I-3 Permit new quarries only if they are:

- ◆ Compatible with surrounding land uses;
- ◆ Not environmentally disruptive; and
- ◆ Not visible from the Valley Floor.

These requirements are consistent with the 1988 Santa Clara County Mineral Resources Element.

4.e-I-4 Work with surrounding jurisdictions to ensure establishment of implementation measures for mineral resource management consistent with state law.

All of the identified state-identified mineral resource areas in the Planning Area are outside City limits.

Consistent with the requirements of the Public Resource Code, implementation measures of the involved jurisdictions must include:

Reference in the General Plan to the location of identified mineral deposits;

Use of maps to clearly delineate identified mineral deposits; and at least one of the following:

a) Appropriate zoning that identifies deposits and restricts encroachment of incompatible land

uses.

b) Requirements for recording notice of the presence of identified mineral deposits in the chain of property title; or

c) Conditions placed upon incompatible land uses within and next to any areas containing identified mineral deposits for the purpose of mitigating any significant land use conflicts.

◆ f Historical and Cultural Resources

Guiding Principles

4.f-G-1 Preserve existing historical and cultural resources, especially those sites where an Historical Park may prove feasible.

4.f-G-2 Undertake efforts that promote Milpitas as a historical community, and undertake efforts to increase public awareness towards preservation.

Implementing Policies

Public Efforts

4.f-I-1 Continue to maintain, rehabilitate, and restore City-owned historic buildings and sites.

4.f-I-2 Acquire historic sites that would benefit from public ownership. - *The Historic Resources Master Plan has identified the following properties deserving consideration for acquisition:*

- ◆ the DeVries/Smith Home;
- ◆ the Weller/Curtner Estate;
- ◆ the Alviso Adobe and site; and
- ◆ the Windsor Blacksmith shop.

4.f-I-3 Develop a program to survey and catalog artifacts, documents and other historic material. - *The Historic Resources Master Plan identifies a staging process for implementation.*

4.f-I-4 Increase the prominence and access to the City's historic resources by developing paths and trails linking the historic sites.

4.f-I-5 Develop programs to promote Milpitas' history. - *Sponsor cultural events, such as a Rancho Festival or History Days, that increase public awareness of historic resources.*

Private Preservation Efforts

4.f-I-6 Encourage private involvement in historic preservation through the establishment of a revolving City loan program. - *The details of this program are described in the Conceptual Historic Resources Master Plan.*

4.f-I-7 Establish a program to award plaques, awards and small grants to recognize private preservation efforts.

Historic Commercial District

4.f-I-8 Continue implementing design guidelines and standards that reflect an "early California" theme. - *Guidelines and standards are established in City Council Resolution 6077;*

topics include architectural design, use of materials, signs and location of parking.

◆ g Scenic Resources and Routes

Guiding Principles

4.g-G-1 Preserve and enhance the natural beauty of the Milpitas area.

4.g-G-2 Establish a network of continuous and varied Scenic Routes that provide views of Scenic Resources and access from urban areas and the regular transportation network to parks, open spaces and cultural attractions.

4.g-G-3 Enhance the visual impact of the gateways to Milpitas.

4.g-G-4 Encourage a variety of recreational uses along Scenic Routes consistent with the concept of protecting visual resources.

4.g-G-5 Provide for the inclusion of facilities and improvements (vista points, picnic areas, etc.) along Scenic Routes where appropriate.

4.g-G-6 Design and site Scenic Routes to have a minimal adverse impact on the environment.

Implementing Policies

Land Use and Development

4.g-I-1 Limit uses in Scenic Corridors to Hillside Residential Very Low Density development (including customary accessory uses), agriculture, parks, trails, and other open space uses. Commercial development can only be allowed when its design will not result in a loss of any scenic potential.

4.g-I-2 Permit clustering of structures, in order to preserve open space while providing for desired development.

4.g-I-3 Establish special height and setback regulations for development in the Scenic Corridors to ensure that views to Scenic Resources are not obstructed. - *The Hillside District currently establishes a 15 foot height restriction in Scenic Corridors.*

Design

4.g-I-4 Require all development within or abutting Scenic Corridors to be oriented away from the Corridors, with limited driveway access.

4.g-I-5 Ensure that development within Scenic Corridors conforms to high design standards by:

- ◆ reviewing architectural design and site planning of all development;
- ◆ requiring development that adjoins natural environments to use materials that help to blend buildings into the surroundings; and
- ◆ requiring parking, storage and other such areas to be screened-off from view by using trees and shrubs.

4.g-I-6 Provide view turnouts, rest areas and picnic facilities at appropriate locations along Scenic Corridors.

Landscaping and Utilities

4.g-I-7 Ensure that all landscaping within and adjoining a Scenic Corridor or Scenic Connector:

- Enhances the City's scenic resources by utilizing an appropriate scale of planting, framing views where appropriate, and not forming a visual barrier to views;
- Relates to the natural environment of the Scenic Route; and
- Provides erosion control.

Coordination with Caltrans will be required for portions of Scenic Connectors which are in Caltrans' right of way.

Median landscaping, lighting fixtures, street signals, and other street furnishing along Scenic Routes should follow a consistent design scheme, and be tastefully blended into the natural or urban landscape.

4.g-I-8 Undertake a program in cooperation with PG&E to underground, relocate or screen utility lines and transmission towers within or easily visible from Scenic Routes.

4.g-I-9 Prepare and implement landscape plans for treatment of major gateways leading into the City. - *These are identified on Figure 4-6.*

Signage

4.g-I-10 Ensure that within the Scenic Corridors, the City's Sign Ordinance permits on-street signs of only the minimum size and height necessary for identification purposes. - *Currently, all Scenic Corridors are within the Hillside Area and the Sign Ordinance currently does not contain special provisions relating to signs within the Scenic Corridors. However, off-premises signs are prohibited by the City's Sign Ordinance throughout the City.* **4.g-I-11** Undertake an evaluation of and implement any necessary steps to ensure that the design and location of signs within and adjoining Scenic Routes does not lead to unsightly and obtrusive conglomerations of advertising.

4.g-I-12 Undertake a program to place appropriate and consistent Scenic Route identification signs periodically along all Scenic Routes. Also provide instructional signs and displays, where appropriate, along Scenic Routes and at roadside facilities, indicating major visual features of the area.

Creeks

4.g-I-13 Develop the section of Berryessa Creek which runs through the Town Center into a scenic as well as a recreation resource for the Town Center.

• h **Waste Management and Recycling**

Guiding Principles

4.h-G-1 Undertake efforts to reduce the generation of waste, increase recycling and slow the filling of local and regional landfills, in accord with the California Integrated Waste Management Act of 1989.

Implementing Policy

4.h-I-1 Implement measures specified in the City's Source Reduction and Recycling Element and the City's Household Hazardous Waste Element. - *Detailed measures to implement the City's policies are outlined in these two elements and are not repeated in the General Plan.*

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CHAPTER 5

Seismic and Safety Element

◆ Purpose

State law requires "... safety element for the protection of the community from any unreasonable risks associated with the effects of seismically induced surface rupture, ground shaking, ground failure, ... dam failure; slope instability leading to mudslides and landslides, subsidence, liquefaction and other seismic hazards identified pursuant to Chapter 7.8 of the Public Resources Code and other geologic hazards known to the legislative body; flooding; and wild land and urban fires... "

◆ Relationship to Other Elements

Issues related to the storage, handling and transportation of hazardous goods are addressed in Section 4.8: Waste Management and Recycling.

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[5.1 Seismic and Geologic Hazards](#)

[5.2 Drainage, Flooding and Dam Inundation](#)

[5.3 Fire Safety](#)

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5.1 Seismic and Geologic Hazards

The Hillside Area is located in the foothills of the Diablo Range and consists of a series of parallel hills and valleys oriented generally northwest/southeast. The rounded hills in the western portion of the Hillside Area form a band about one mile wide with a maximum elevation of about 1,270 feet. Spring Valley, in the central portion of the Area, is roughly one-quarter mile wide and two and a half miles long. The central portion of the valley is relatively flat and has an elevation of about 600 feet. Along the eastern boundary of the Hillside Area rise the steep western slopes of Los Buellis Hills, where the elevation ranges from roughly 800 feet to 2,337 feet at Monument Peak in the north.

Background information in this section is extracted from *Geotechnical Hazards Evaluation, City of Milpitas* (1987). The report is based on compilation of published geologic and soils maps, data from unpublished geotechnical reports, and interpretation of stereoscopic aerial photographs. No new field mapping was performed for the study. Figure 5-1 summarizes geotechnical hazards in the Planning Area.

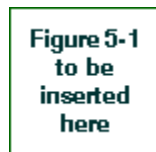
Hillside Area

Most of the Hillside Area is underlain by relatively hard, shallow, fractured bedrock. Softer bedrock underlies the western margin of the Hillside Area. Most of the ridges are mantled by thin residual soil which forms in-place as the bedrock weathers. The slopes and small valleys are blanketed by organic-material rich colluvial soil, which has moved downslope and accumulated on lower slopes and in canyon bottoms.

LANDSLIDES

Many large landslide deposits are present in the foothills. Although the largest landslides are tens of thousands of years old, portions of many of the landslides have reactivated. Large, deep landslides generally involve unstable bedrock as well as soil. These slides can be deeper than 100 feet. Small, shallow landslides generally involve only soil and weathered bedrock. Some of the steep slopes in the hills are susceptible to recurring debris flows, which are shallow, rapid landslides that often travel many hundreds of feet and impact areas well below the unstable hillsides on which they originate.

Unstable soils on slopes are mapped in Figure 5-1.



Geotechnical Hazards

GEOLOGY AND SOILS

All of the bedrock formations produce colluvial soil, which may be as thick as 15 feet in valley bottoms. Sandstone and shale of Cretaceous age underlies the west-central portion of the Hillside Area west of Spring Valley. Much of the shale is highly susceptible to landsliding. Residual soils are generally silty and sandy clay, less than 2 feet thick, and highly expansive.

The Monterey Shale of Miocene age underlies the central portion of the foothills west of Spring Valley. Unweathered bedrock may be difficult to excavate. Residual soils are generally clayey, less than two feet thick, and highly expansive.

The Briones Sandstone of upper Miocene age underlies the eastern portion of the foothills west of Spring Valley. The formation includes siltstone as well as sandstone and is locally fossiliferous. Fossiliferous beds may also be difficult to excavate. Residual soils are generally clayey, less than two feet thick, and expansive.

The Orinda Formation of Pliocene age underlies the foothills around Spring Valley and includes conglomerate, sandstone, siltstone, and claystone. The Orinda Formation, especially the claystone, is highly susceptible to landsliding. The conglomerates may be difficult to excavate. The residual soils are generally silty clay, four to six feet thick, and highly expansive.

The Santa Clara Formation of Plio-Pleistocene age underlies the western margin of the foothills. It consists of soft conglomerate sandstone, siltstone, and claystone that weather rapidly and are highly erodible and highly susceptible to landsliding. Residual soils are generally clayey, five to six feet thick, and highly expansive.

Valley Floor

The relatively flat, urbanized Valley Floor is underlain by alluvial soil of Quaternary age. This soil consists of interlayered, poorly sorted gravel, sand, silt, and clay deposited by water. The thickness of the alluvial soil increases westward from zero at the base of the hills to 1,000 feet or more at the western edge of the City.

The alluvial soil in Milpitas was deposited in and adjacent to stream channels, in low-lying basins between streams, and on the floor of the Bay when the shoreline was east of its present position. The composition and consistency of alluvial soils varies laterally and vertically over small distances and depths.

Most of the alluvial soil in Milpitas is expansive and susceptible to liquefaction, and alluvial areas along creeks may be susceptible to lateral spreading. Local areas have compressible soils, poorly drained soils, shallow ground water, or are susceptible to lateral spreading. Because soil composition varies vertically as well as laterally, several soil types may underlie a particular site.

Faulting And Seismicity

The Hayward fault trends northwestward through the western portion of the Milpitas foothills (see Figure 5-2). The Calaveras fault trends northwestward through Calaveras Reservoir, approximately 1-1/2 miles northeast of the eastern edge of the City. The San Andreas fault trends northwestward through the Santa Cruz Mountains approximately 13 miles southwest of Milpitas. All of these faults are active and have produced damaging earthquakes in the historic past. Other active and potentially active faults are present in the Bay Area and may produce earthquakes of significance to Milpitas.

Earthquake hazards consist of hazards produced by surface fault rupture, and hazards produced by ground shaking. Only the Hayward fault zone is located within Milpitas and capable of producing surface fault rupture in the City. Large earthquakes on the Hayward, Calaveras, and San Andreas faults could produce ground shaking sufficient to cause extensive damage in Milpitas. Large earthquakes on other faults may also produce significant ground shaking in the City. Table 5-1 lists each of the three major active faults, its closest approach to the City of Milpitas, and the Richter magnitude of the maximum credible earthquake it might generate.

Table 5-1 Distance to Major Active Faults		
Fault	Distance To Nearest Part Of Milpitas	Maximum Credible Earthquake
	(Miles)	(Richter Magnitude)
Hayward	runs through Milpitas	7.7
Calaveras	1-1/2	7.7
San Andreas	13	8.3
Source: <i>Geotechnical Hazards Evaluation</i> , City of Milpitas, 1987		

Surface Fault Rupture. As previously stated, the Hayward fault zone passes through the western part of the Milpitas Hillside Area. The fault zone extends from San Pablo Bay to San Jose. In 1836 and 1868 the Hayward fault produced earthquakes with estimated Richter magnitudes of 7.0 and 6.9. The surface rupture of the 1868 earthquake extended from San Leandro to the Warm Springs district of Fremont, a distance of about 29 miles. Portions of the Hayward fault exhibit slow, relatively continuous surface fault creep not associated with earthquakes. The Hayward fault is not known to be creeping in Milpitas.

Ground Shaking. The intensity of ground shaking depends on factors such as earthquake magnitude, distance to the causative fault, depth to bedrock, physical characteristics of underlying soil and bedrock, and local topography. Maximum bedrock accelerations for the Milpitas area are expected to exceed 0.5g, half the acceleration of gravity. Maximum earthquake intensities expected in the City for large earthquakes on the Hayward fault range from "very violent" to "very strong". Earthquake hazards produced by ground shaking include damage to structures, and secondary ground failures.

Ground shaking that accompanied the 1868 earthquake on the Hayward fault and the 1906

earthquake on the San Andreas fault caused ground failures along Coyote Creek in Milpitas. Modes of ground failure included ground settlement, lateral spreading, and failures of stream banks. Large historic earthquakes have also produced landslides on hillsides in the region.

Alquist-Priolo Special Studies Zone. The Alquist-Priolo Special Studies Zone Act went into effect in 1973 and has been amended several times since. The purpose of the Act is to prohibit the location of most structures for human occupancy across the traces of active faults and to thereby mitigate the hazard of fault rupture. Under the Act, the state Division of Mines and Geology is required to delineate Special Studies Zones along active faults in California, and jurisdictions containing these zones must then regulate certain types of development within the zones.

Figure 5-2 shows the state-defined Special Studies Zone for Milpitas and requirements for undertaking studies prior to development.

Figure 5-2
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Seismic and Geotechnical Evaluation Requirements

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5.2 Drainage, Flooding and Dam Inundation

Drainage

The Planning Area extends northeastward from Coyote Creek near the Bay into the Diablo Range. The base of the foothills of the Range trends northwestward and marks the northeastern edge of the urbanized part of the Planning Area. Near the eastern City limit, the rolling foothills are interrupted by a broad, northwest tending intermontane valley known as Spring Valley. Elevations in the Planning Area range from sea level near Coyote Creek to approximately 2,400 feet in the northeastern corner, near Monument Peak. Natural slope gradients range from nearly level near the Bay to approximately 1.5:1 (horizontal to vertical) on the steeper hillsides.

Drainage in Milpitas is generally westward. Six intermittent streams (Scott, Calera, Tularcitos, Piedmont, and Berryessa creeks, and Arroyo de los Coches) flow out of the foothills and across the flatlands. In the western part of the City, Lower Penetencia and Coyote creeks carry water from these streams northward into the Bay. The perennial Coyote Creek originates approximately 30 miles southeast of Milpitas. Most of the intermittent streams have been channelized through the Valley Floor.

In the Valley Floor, water seeps into unlined streambeds and recharges the ground water supply. In some parts of the flatlands, the ground water table is near the ground surface during the rainy season.

Storm Water Collection and Disposal. The City collects and disposes its storm water via a storm drainage network consisting of catch basins, conveyance piping, pump stations, and outfalls to creeks. The City has 123 miles of storm pipe, 3,000 catch basins, approximately 4 miles of drainage ditches and creeks, and storm water pump stations. Storm water collection efforts are guided by the Floodplain Management Plan, which is a compilation of different management sources, and is designed to be a flexible and growing instrument.

Flooding Milpitas is located within the East Zone of the Flood Control benefit Assessment District, the proceeds of which go to the Santa Clara Valley Water District to provide maintenance and an increased level of flood protection by accelerating construction projects throughout the County, some of which are in Milpitas.

About half of the Planning Area Valley Floor lies within one of the Special Flood Hazard Areas (see Figure 5-3). Almost all land west of the Southern Pacific Railroad lies within the 100-year Flood Zone and all land west of Highway 680 is part of the 500-year Flood Zone.

Figure 5-3
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Flooding and Dam Inundation

Flood control in the Planning Area is provided by a variety of federal, state, and local agencies. The general purposes of these agencies are to identify potential flood issues and hazard areas, and devise preventative programs, policies, or structures to avoid or minimize flood destruction. Agencies besides the City that are responsible for flood control include:

U.S. Army Corps of Engineers (ACOE). The ACOE identifies the need for, and constructs major flood control facilities. The ACOE also develops flood and dam inundation maps and reports.

Federal Emergency Management Agency (FEMA). FEMA manages the National Flood Insurance Program, providing insurance to the public in communities which participate in the program. FEMA is the main federal government agency contact during natural disasters and is a regulating agency for water quality control. FEMA publishes the Federal Insurance Rating Maps (FIRM), which identifies the extent of flood potential in flood prone communities. FIRMs are based on a 100-year flood (or base flood) event.

Federal Insurance Administration. The Federal Insurance Administration is the primary agency which delineates potential flood hazard areas and floodways through the FIRMs and the Flood Boundary and Floodway Map.

Dam Inundation

State law requires local governments to assess the potential impacts that dam failures may have on their jurisdiction. According to the state Office of Emergency Services for Santa Clara County, parts of the City along the Calaveras Road area east of I-680 could be inundated by failure of the 38-foot high Sandy Wool Lake Dam, located in Ed Levine Park (see Figure 5-3). The area could be inundated in as soon as 15 minutes from the time of dam failure, affecting a population of about 4,900. The Office of Emergency Services maintains an evacuation plan in the unlikely event that a failure of the dam were to occur

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5.3 Fire Safety

Milpitas Fire Department The Milpitas Fire Department (MFD) provides fire protection services for the 13.2 square-mile incorporated portion of the Planning Area. The City maintains mutual aid agreements with the area municipal and County fire departments through the Santa Clara County Local Mutual Aid Plan, and also with the California Department of Forestry and Fire Protection. The City is also party to the statewide mutual aid agreement.

The average response time to code 3 emergencies in the City was about 3.7 minutes during 1992-93. The City's Insurance Services Office (ISO) rating is 3 on a scale of 1 to 10 (with 1 being the best).

Stations. The City staffs and operates four stations: on Curtis Avenue, Yosemite Drive, Midwick Drive, and Barber Lane. While expansion of facilities and seismic upgrading at some stations is being planned, there are no plans to add new stations(1). Wildland Fires During summer, and in prolonged periods without rainfall, grasses, trees and other vegetation in the Planning Area

become extremely dry and act as potential fuel for fires. The grasses on the hillsides are light fuel vegetation, which in the event of a fire burn quickly. Fire protection for the hillsides is primarily provided by the California Department of Forestry and the Spring Valley voluntary Fire Department. The City provides assistance for the hillside as needed on the basis of a mutual agreement.

Weed Abatement Program. The MFD maintains a weed abatement program. Each year, between May and August, department personnel survey non-developed properties in the City and notify owners of the need to remove vegetation and trash.

(1) Milpitas Fire Department, September 1993.

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5.4 Emergency Management

See also section 5.2 for emergencies related to dam inundation.

The City maintains an emergency plan to deal with natural or man-made disasters. The objectives of the Plan are to prepare for and facilitate coordinated and effective responses to emergencies within the City and to provide assistance to other jurisdictions as needed. The Plan specifies actions for the coordination of operations, management and resources, and responsibilities of the different departments and governmental agencies during emergency events. Evacuation routes are to be determined as appropriate depending on the nature of the emergency.

The City Manager serves as the Director of Emergency Services; a state of emergency can be declared by the Director or the City Council. The City Emergency Operating Center is located in the City Police Station, 1275 North Milpitas Boulevard.

The California Mutual Aid Agreement calls for a shared response to an emergency from adjacent or area jurisdictions when an affected jurisdiction cannot provide service by itself. Disaster assistance from federal agencies is also available when needed to supplement, but not substitute, local civil operations.

Hazardous Materials Spill. In the event of a hazardous materials emergency several agencies are responsible for timely response, depending on the extent, and type of the incident. The Santa Clara County Hazardous Materials Response Team composed of representatives of the Santa Clara County Fire Department, California Department of Forestry, and member cities responds to large scale, emergency hazardous material incidents within the Planning Area. The Milpitas Fire Department is responsible for non-emergency hazardous materials reports within the City. If and when these non-emergency incidents become a threat to groundwater supplies, the Regional Water Quality Control Board takes control of the case. The Fire Department also monitors above ground and underground storage tanks and combustible and flammable liquids for leaks and spills.

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5.5 Seismic/Safety Principles and Policies

◆ a Seismic and Geologic Hazards

Guiding Principle

5.a-G-1 Minimize threat to life and property from seismic and geologic hazards.

Implementing Policies

5.a-I-1 Require all projects within the Alquist-Priolo Special Studies Zone to have geologic investigations performed to determine the locations of active fault traces before structures for human occupancy are built.

5.a-I-2 Require applications of all projects in the Hillside Area and the Special Studies Zone to be accompanied by geotechnical reports ensuring safety from seismic and geologic hazards.

5.a-I-3 Require projects to comply with the guidelines prescribed in the City's *Geotechnical Hazards Evaluation* manual. - Generalized geotechnical hazards in the City are mapped in Figure 5-2. However all projects should consult the detailed maps produced in 1987 and available with the City.

◆ b Drainage and Flooding

Guiding Principle

5.b-G-1 Minimize threat to life and property from flooding and dam inundation.

Implementing Policies

5.b-I-1 Ensure that new construction or substantial improvements to any existing structure result in adequate protection from flood hazards. This includes ensuring that:

- ◆ New residential development within the 100-year Flood Zone locate the lowest floor, including basement, above the base flood elevation; and

- ◆ New non-residential development locate the lowest floor, including basement, above the base flood elevation or incorporate flood-proofing and structural requirements as spelled out in the Municipal Code.

Criteria for protection from the 100-year flood hazard is spelled out in Title XI Chapter 15 of the Municipal Code.

5.b-I-2 Require all structures located within the 100-year Flood Zone to provide proof of flood insurance at the time of sale or transfer of title.

5.b-I-3 Ensure that encroachment into designated floodways does not result in any increase in flooding hazards.

5.b-I-4 Continue working with the Office of Emergency Services to update and maintain the Sandy Wool Lake Dam failure evacuation plan. - *The Plan, which includes addresses and phone numbers, was last updated in 1977.*

5.b-I-5 Seek construction of flood control channels to withstand 100-year floods along Coyote, Penitencia, Berryessa, Scott, Calera, and Los Coches creeks.

◆ c Fire Safety

Guiding Principle

5.c-G-1 Provide high quality, effective and efficient fire protection services for the Milpitas area residents.

Implementing Policies

5.c-I-1 Maintain a response time of four minutes or less for all urban service areas.

5.c-I-2 Maintain mutual aid agreements with other agencies in the County.

5.c-I-3 Require automatic fire sprinklers for all new development in the Hillside Area that is not within 1.5 miles of an existing or planned fire station, and fire-resistive construction and compliance with California high-rise building requirement for buildings over three stories in height.

◆ d Emergency Management

Guiding Principle

5.d-G-1 Use the City's Emergency Management Plan as the guide for emergency management in the Planning Area.

Implementing Policies

5.d-I-1 Maintain and upgrade the Emergency Management Plan as necessary.

5.d-I-2 Design critical public facilities to remain operational during emergencies. - *These facilities include police and fire stations, and schools. According to the City's Fire Department, seismic upgrade of some fire stations is necessary for them to withstand the maximum credible earthquake in Milpitas.*

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CHAPTER 6

Noise Element

◆ Purpose

Noise is "unwanted sound" and is known to have several adverse effects on people. The known effects include hearing loss (not generally a factor with community noise), communication interference, sleep interference, physiological responses and annoyance. The Noise Element provides an understanding of existing and future noise conditions in the Planning Area, establishes a basis for evaluating potential noise level impacts on future development, and includes policy statements to guide public and private planning to attain and maintain acceptable noise levels. Implementation of the Noise Element will promote a comprehensive and long range program of achieving acceptable noise levels throughout the Planning Area. Quantitative information in the Element includes maps showing present and future noise levels.

◆ Relationship to Other Elements

Traffic is one of the major Planning Area noise sources, and noise contours are based on existing and projected traffic volumes on the planned street system. As projected traffic volumes are directly related to planned land uses, the Noise Element is also closely related to the Land Use Element.

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- [6.1 Noise Measurement and Compatibility Standards](#)
- [6.2 Existing and Projected Noise](#)
- [6.3 Noise Mitigation](#)
- [6.4 Noise Principles and Policies](#)

6.1 Noise Measurement and Compatibility Standards

Noise Measurement

For planning purposes, a weighted scale is used to describe environmental noise at any one particular time; however, community noise levels vary continuously. In order to account for the time-varying characteristics of noise, all of the individual noise readings must be averaged over a 24-hour period to give an equivalent level. This equivalent noise level, expressed as Day-Night Noise Level (DNL or Ldn) or Community Noise Equivalent Level (CNEL, normally within 0.5 dB of the DNL value) can then be plotted on a map to illustrate average noise levels throughout the community. The DNL used in this Element represents a sound level that is equivalent to the total varying sound levels that occur over a 24 -hour period plus a 10 decibel (dB) penalty for nighttime noise (i.e. between 10 PM and 7 AM).

In establishing noise contours for land use planning, it is customary to ignore the noise attenuation afforded by man-made structures, roadway elevations, and depressions, and to minimize the barrier effects of natural terrain features. Thus, noise contours provide a conservative estimate of the future noise environment. The purpose of the contours is to identify the potential need for more detailed acoustical analyses, not to precisely predict noise levels. It is preferable to overestimate the potential noise at a future sensitive development site, rather than underestimate the noise environment and allow for potentially incompatible land use development. Man-made barriers, such as buildings, may be removed as a part of development, thereby providing no future noise attenuation.

Noise Compatibility Standards

Based on the known effects of noise, criteria have been established to help protect public health and safety and prevent disruption of certain human activities. The City's noise compatibility standards are derived from guidelines published by the California Office of Planning and Research, and are shown in Table 6-1. They match different land uses with an appropriate range of noise levels. These standards should be used in conjunction with noise exposure contours shown on the noise map (Figures 6-1 Existing Noise, and 6-2, Future Noise) to determine where noise levels exceed the "normally acceptable" range and an acoustic report and noise mitigation is required for development projects.

Table 6-1
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Land Use Compatibility for Community Noise Environments

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6.2 Existing and Projected Noise

A community noise survey was conducted for the General Plan to document noise exposure in areas containing noise sensitive land uses, such as residential areas, parks and schools. Noise monitoring sites were selected to be representative of typical conditions in the Planning Area. Details of survey are in Appendix D of the Plan.

Noise Contours

In addition to the noise survey, noise contour maps were produced for the Planning Area. A "noise contour map" shows as closed lines those linear bands subject to similar average noise levels. Figure 6-1 shows existing noise levels in the Planning Area, based on noise studies conducted in 1988. The noise survey conducted for the General Plan in November and December 1993 confirms that current (1993-94) noise levels have not changed substantially since 1988. Figure 6-2 depicts projected 2010 noise levels (based on projected traffic volumes). The noise levels in these maps are expressed in DNL.

Contours along roadways represent the predicted noise level and do not reflect the mitigating effects of noise barriers, structures, topography, or vegetation. Because intervening structures, topography, and vegetation may significantly affect noise exposure at a particular location, the noise contours should not be considered site-specific, but rather are guides to determine when detailed acoustic analysis should be undertaken.

Figure 6-1
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Existing Noise

Figure 6-2
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Future Noise

Principal Noise Sources in the Planning Area

Traffic and the railroads are the principal noise sources in the Planning Area. Sporadic noise from aircraft and construction-related activities also contributes to the noise environment in the Planning Area. Further detail on the existing noise environment in the Planning Area is included in Appendix D.

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6.3 Noise Mitigation

The preferred method of mitigating noise is controlling it at source and separating sensitive receptors and noise sources. Mitigation measures generally fall into two general categories: physical and regulatory. Physical measures include enclosing the noise source, substitution of a quieter noise source, or use of a noise barrier. Regulatory measures, on the other hand, reduce noise exposure by limiting operation of the noise source or by regulating locations where it may be used. Generally, physical measures reduce the level of noise produced, whereas regulatory measures limit the duration of the noise, thereby reducing noise exposure.

Physical mitigation measures for traffic noise are construction of sound walls along noise-sensitive areas, use of earth berms and revetments, and routing of new roads to circumvent noise-sensitive areas. Administrative regulation of traffic noise includes restricting truck access routes, enforcement of speed limits, and enforcement of state vehicle noise emission standards.

For new construction, noise control should be incorporated into the design of projects. Specific recommendations depend upon the type of construction, character of the noise exposure, and degree of noise reduction required for interior and outdoor areas.

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6.4 Noise Principles and Policies

Guiding Principles

- 6-G-1** Maintain land use compatibility with noise levels similar to those set by State guidelines.
- 6-G-2** Minimize unnecessary, annoying, or injurious noise.

Implementing Policies

Uses and Standards

- 6-I-1** Use the guidelines in Table 6-1 (Noise and Land Use Compatibility) as review criteria for development projects.
- 6-I-2** Require an acoustical analysis for projects located within a "conditionally acceptable" or "normally unacceptable" exterior noise exposure area. Require mitigation measures to reduce noise to acceptable levels.
- 6-I-3** Prohibit new construction where the exterior noise exposure is considered "clearly unacceptable" for the use proposed.
- 6-I-4** Where actual or projected rear yard and exterior common open space noise exposure exceeds the "normally acceptable" levels for new single-family and multifamily residential projects, use mitigation measures to reduce sound levels in those areas to acceptable levels.
- 6-I-5** All new residential development (single family and multifamily) and lodging facilities must have interior noise levels of 45 dB DNL or less. Mechanical ventilation will be required where use of windows for ventilation will result in higher than 45 dB DNL interior noise levels.
- 6-I-6** Assist in enforcing compliance with noise emissions standards for all types of vehicles, established by the California Vehicle Code and by federal regulations, through coordination with the Milpitas Police Department, Santa Clara County Sheriff's Department, and the California Highway Patrol. - *The most efficient and effective means of controlling noise from transportation systems is reducing noise at the source. However, the City has little direct control over transportation source noise levels because of state and federal preemption (e.g. State Motor Vehicle Noise Standards). Therefore, requiring compliance with State and federal agency standards is the best approach.*
- 6-I-7** Avoid residential DNL exposure increases of more than 3 dB or more than 65 dB at the property line, whichever is more restrictive.

Noise Monitoring and Updating

- 6-I-8** Biennially monitor 24-hour noise exposure at two locations, and shorter-duration exposure at six additional locations in the Planning Area. - *The next monitoring should be conducted by summer 1996. The locations will be selected by the Community Development Department in response to community concerns.*
- 6-I-9** Enforce the provisions of the City of Milpitas Noise Ordinance and the use of established truck routes.

Methods of Attenuation

- 6-I-10** Reduce the noise impact in existing residential areas where feasible. Noise mitigation measures should be implemented with the cost shared by public and private agencies and individuals.

6-I-11 Minimize noise impacts on neighbors caused by commercial and industrial projects.

6-I-12 New noise-producing facilities introduced near sensitive land uses which may increase noise levels in excess of "acceptable" levels will be evaluated for impact prior to approval; adequate mitigation at the noise source will be required to protect noise-sensitive land uses.

6-I-13 Restrict the hours of operation, technique, and equipment used in all public and private construction activities to minimize noise impact. Include noise specifications in requests for bids and equipment information.

6-I-14 City streets will be designed to reduce noise levels to adjacent areas. This is most effectively implemented through traffic engineering to prevent residential streets from becoming rush-hour thoroughfares, and through enforcement of speed limits. Physical mitigation measures, such as sound walls, will also be considered, where appropriate.

6-I-15 Promote installation of noise barriers along highways and the railroad corridor where substantial land uses of high sensitivity are impacted by unacceptable noise levels.

Coordination with Other Agencies

6-I-16 Work with Caltrans and other agencies on traffic and railroad noise issues and participate in appropriate noise mitigation programs.

APPENDIX A

The following figures show 2010 PM peak-hour traffic volumes and levels of service using land use information depicted on the General Plan Diagram. Assumptions for the 2010 model run are:

- The SR 237/I-880 interchange improvement.
- The I-880/Tasman interchange in full operation. It assumed that the Tasman Drive would be extended over the Coyote Creek and continues westward into Santa Clara. Other improvements include the widening of Capitol Avenue from the existing four lanes to six lanes and extending Tasman Drive from McCarthy Boulevard west of I-880 to Capitol Avenue east of I-880.
- Improvements at the proposed Dixon Landing Road Interchange was also assumed. Dixon Landing Road was assumed to be improved to six lanes between the I-880 overcrossing and North Milpitas Boulevard.
- It was also assumed that McCarthy Boulevard would be connected between SR237 to Dixon Landing Road.

The forecasts suggest that the majority of local arterials would be operating at LOS D or better. Within the City limits, most of the segments of Calveras Boulevard would operate at high LOS D. However, the segment at the overcrossing between Abel Street and North Milpitas Boulevard would operate at LOS F. It is projected that all the major freeway segments (including SR 237, I-880 and I-680) north of Calaveras Boulevard would operate at LOS E during the PM peak hour. South of Calaveras Boulevard, I-880 and I-680 would operate at high LOS D. Almost all segments of Montague Expressway are projected to operate at LOS F, especially between Capital Avenue and I-680. Segments of Capital Avenue near the Great Mall are projected to operate at LOS E.

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2010 PM Peak Hours Volumes

Figure A-2
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2010 PM Peak Hour Levels-of-Service

APPENDIX B

TABLE B-1 Milpitas Transit Service Frequency (minutes)						
Routes	Final Destination	Rush Hour	Midday	After 6pm	Saturday	Sunday/Holiday
Local				30-60		
20	Mountain View	15	30		30-60	60
56	Sunnyvale	30				
59	Great America	30		30-		
66	Southeast San Jose	15	30	60	30-60	30-60
70	Southeast San Jose	15	15	30	20-60	30-60
71	East San Jose	15	30	30-	30-60	30-60
74	East San Jose	35	30	60	45	60
77	Evergreen College	30	30	30-60	60	60
Limited						
321	East San Jose	30-60				
Express						
104	East San Jose/Los Altos	20-30				
140	Fremont BART/Mountain View	65				
141	Fremont BART/Great America					
180	Fremont BART/San Jose	15	30	30-60	75-40 30-60	75-40 30-60
520	Amtrak Fremont BART/Moffett Field	30-60				
AC Transit						
22	Fremont BART					
28	Fremont BART					

Source: Santa Clara Transportation Agency, 1995

APPENDIX C

Table C-1 shows the results of the California Natural Diversity Data Base (CNDDB) and the California Native Plant Society (CNPS) search for sensitive plants and animal species occurring

within or near the Milpitas planning area. Following Table C-1 is information provided by the U.S. Fish and Wildlife Service on listed and proposed endangered and threatened species that **may** occur within the Milpitas Planning Area.

TABLE C-1 Sensitive Plant and Animal Species Occurring Within or near the Planning Area						
Species	Habitat	Federal	State	CDFG	CNPS	R-E-D
<i>Species Known to Occur Within the Planning Area^a</i>						
Birds						
<i>Aquila Chrysaetos</i> Golden eagle	Rolling foothill	none	none	SC	na	na
Mammals						
<i>Reithrodontomys raviventris</i> Salt marsh harvest mouse	Salt marsh	E	E	none	na	na
Plants						
<i>Astragalus tener</i> var <i>tener</i> Alkali milk-vetch	Alkali playa/Grassland /Vernal pools	none	none	none	1B	3-2-3
<i>Species That May Occur Within the Planning Area^b</i>						
Plants						
<i>Cordylanthus maritimus</i> SSP <i>palustris</i> Pt. Reyes bird's beak	Coastal salt marsh	FC2	none	none	1B	2-2-2
<i>Atriplex joaquiniana</i> San Joaquin spearscale	Scrub/Meadows/ Grasslands	FC2	none	none	1B	2-2-3
<i>Clarkia concinna</i> SSP <i>automixa</i> Santa Clara red ribbons	Woodland	FC2	none	none	1B	2-2-3
<i>Hemizonia parryi</i> SSP <i>Congdonii</i> Congdon's tarplant	Woodland	FC1	none	none	1B	3-3-3
<i>Lathyrus jepsonii</i> var <i>jepsonii</i> Delta tule pea	Fresh/Salt-water marsh	FC2	none	none	1B	2-2-3
<i>Lessingia hololeuca</i> Woolly-headed lessingia	Coastal scrub/Conifer forest/Grassland	none	none	none	3	?-?-3c
<i>Sidalcea malachroides</i> Maple-leaved checkerbloom	Broadleaf forest/Coastal prairie/Conifer forest	none	none	none	1B	2-2-2

TABLE C-1 continued

Sensitive Plant and Animal Species Occurring Within or near the Planning Area

FED/STATE E = Endangered

CDFG SC = Indicates whether the species is a Department of Fish and Game Species of Special Concern.

CNPS List (Species listed by the California Native Plant Society - plants only)

1B = Plants Rare, Threatened or Endangered in California or elsewhere.

3 = Plants for which more information is needed.

CNPS R-E-D Code

R (Rarity)

2 = Occurrence confined to several populations or to one extended population.

3 = Occurrence limited to one or a few highly restricted populations, or present in such small numbers that it is seldom reported.

E (Endangerment)

2 = Endangered in a portion of its range.

3 = Endangered throughout its range.

D (Distribution)

2 = Rare outside of California.

3 = Endemic to California.

Sources:

^a California Department of Fish and Game, *California Natural Diversity Data Base*. 1994

^b California Native Plant Society. *Inventory of Rare and Endangered Vascular Plants in*

California. 1994. Species listed in the Inventory are mapped by USGS Quadrangles

and specific plant locations are not defined. They may or may not occur within the Planning

Area. Plants listed above are those designated in USGS Quadrangles 427A, *Calaveras*

Reservoir, and 427B, *Milpitas*, which contain the Milpitas Planning Area as well as well as

adjacent jurisdictions.

^c Rare and Endangered status unknown.

(To be inserted) US Fish and Wildlife Service letter & list / 1

(To be inserted) US Fish and Wildlife Service letter & list / 2

(To be inserted) US Fish and Wildlife Service letter & list / 3

(To be inserted) US Fish and Wildlife Service letter & list / 4

APPENDIX D

The existing noise environment in Milpitas was characterized by a noise monitoring and measurement program conducted between Tuesday, November 30 and Wednesday, December 1, 1993. All measurements and monitoring employed Larson Davis Model 700 digital programmable noise monitors. These devices were housed in weatherproof containers, and programmed to digitally record the noise environment at each location, at half - second intervals, throughout the noise monitoring period. Two control sites were selected: Site 1 was along I-880, 180 feet east of the roadway centerline, north of Route 237; Site 2 was located along I-680, 160 feet east of the roadway centerline, west of Shirley Drive. Each of these monitoring systems operated

concurrently during an identical time period between November 30 and December 1, 1993. The detailed monitoring data results are attached and summarized in Table D1. Four additional 1-minute duration noise measurements were at the other four measurement locations (sites 3, 4, 5 and 6 on November 30; see Table D-1). The description of each measurement location is given in the table along with summary noise measurement results.

Table D-1 is followed by background information on noise and physiological responses to noise.

Fundamental Concepts of Community Noise

Background

Three aspects of community noise are important in determining subjective response:

- Level (i.e., magnitude or loudness) of the sound.
- The frequency composition or spectrum of the sound.
- The variation in sound level with time.

Airborne sound is a rapid fluctuation of air pressure and local air velocity. Sound levels are measured and expressed in decibels (dB) with 0 dB roughly equal to the threshold of hearing. The frequency of a sound is a measure of the pressure fluctuations per second measured in units of hertz (Hz). Most sounds do not consist of a single frequency, but are comprised of a broad band of frequencies differing in level. The characterization of sound level magnitude with respect to frequency is the sound spectrum. A sound spectrum is often described in octave bands which divide the audible human frequency range (i.e., from 20 to 20,000 Hz) into ten segments. Figure D-1 (at the end of this section) shows a range of sound spectra for various types of sound over the audible hearing range.

TABLE D-1 Summary of Noise Measurements for the City of Milpitas Tuesday, 30 November 1993							
			A-weighted Noise Levels				
Site	Location	Date/Time	L _{eq}	L ₁₀	L ₅₀	L ₉₀	DNL
1	I-880, 180 ft east of roadway centerline, north of Route 237	30 November - 1 December 1993 Noon	73	75	72	62	77
2	I-680, 160 ft east of roadway centerline, west of Shirley Drive	30 November - 1 December 1993 Noon	75	77	74	65	79
3	Landess Avenue, 50 feet north of roadway centerline, across from Paris Way	30 November 1993 1:40 - 1:55 p.m.	66	70	62	52	70*
4	Dixon Landing Road, 65 feet south of roadway centerline, west of Milmont Drive	30 November 1993 Noon - 12:15 p.m.	68	72	65	60	72
5	Piedmont Road, 40 feet west of turning lane centerline, 2271 Mesa Verde Drive	30 November 1993 1:30 - 1:45 p.m.	64	69	57	44	68*
6	N. Milpitas Blvd., 65 feet east of turning lane centerline, north of Arbor Lane	30 November 1993 12:30 - 12:45 p.m.	69	72	66	61	73*

* The DNL values are extrapolated from shorter-duration measurements.

Frequency Weighting

Many rating methods exist to analyze sound of different spectra. The simplest method is generally used so that measurements may be made and noise impacts readily assessed using basic acoustical instrumentation. This method evaluates all frequencies by using a single weighting filter that progressively de-emphasizes frequency components below 1000 Hz and above 5000 Hz. This frequency weighting, shown in Figure D-2 (at the end of this section), reflects the relative decreased human sensitivity to low frequencies and to extreme high frequencies. This weighting is called A-weighting and is applied by an electrical filter in all U.S. and international standard sound level meters. Some typical A-weighted sound levels are presented in Figure D-3 (at the end of this section).

Noise Exposure

Noise exposure is a measure of noise over a period of time, whereas noise level is a single value at an instant in time. Although a single sound level may adequately describe community noise at any instant in time, community noise levels vary continuously. Most community noise is produced by many distant noise sources which produce a relatively steady background noise having no identifiable source. These distant sources change gradually throughout the day and include traffic, wind in trees, and distant industrial activities. Superimposed on this slowly varying background is a succession of identifiable noise events of brief duration. These include nearby activities such as single vehicle passbys or aircraft flyovers which cause the community noise level to vary from instant to instant.

A single number called the equivalent sound level or L_{eq} is used to describe noise varying over a period of time. The L_{eq} is the average noise exposure level over a period of time (i.e., the total sound energy divided by the duration). It is the constant sound level which would contain the same acoustic energy as the varying sound level, during the same time period. The L_{eq} is useful in describing noise over a period of time with a single numerical value.

Discrete short duration transient noise events, such as aircraft flyovers, may be described by their maximum A-weighted noise level or by their sound exposure level (i.e., SEL). The SEL value is the preferred descriptor because measured results may be more reliably repeated and because the duration of the transient event is incorporated into the measure (thereby better relating to subjective response). Maximum levels of transient events vary with instantaneous propagation conditions while a total energy measure, like SEL, is more stable. The SEL of a transient event is a measure of the acoustic energy normalized to a constant duration of one second. Figure D-4 (at the end of this section) shows this relationship. The SEL differs from the L_{eq} in that it is the constant sound level containing the same acoustic energy as a one-second event, whereas the L_{eq} is the constant sound level containing the same acoustic energy over the entire measurement period. The SEL may be considered identical to the California standard Single Event Noise Exposure Level (i.e., SENEL).

SEL values may be summed on an energy basis to compute L_{eq} values over any period of time. This is useful in modeling noise in areas exposed to numerous transient noise events, such as communities around airports. Hourly L_{eq} values are called Hourly Noise Levels (i.e., HNL values).

In determining the daily measure of community noise, it is important to account for the difference in human response to daytime and nighttime noise. During the nighttime, exterior background noise levels are generally lower than in the daytime. Most household noise also decreases at night, and exterior noise intrusions become more noticeable. People are more sensitive to noise at night than during other periods of the day.

To account for human sensitivity to nighttime noise, the DNL (or L_{dn}) descriptor was adopted by the Environmental Protection Agency to describe community noise exposure from all sources. The DNL is called the day-night sound level and represents the 24-hour A-weighted equivalent sound level with a 10-dB penalty added for the nighttime noise between 10:00 pm to 7:00 am.

In California, the Community Noise Equivalent Level (CNEL) is the adopted standard. DNL and CNEL are typically computed by energy summation of HNL values, with the proper adjustment applied for the period of evening or night. The CNEL is computed identically to the DNL but with the addition of a 5-dB penalty for evening (i.e., 7:00 pm to 10:00 pm) noise. The CNEL value is typically less than 1 dB above the DNL value. Figure D-5 (at the end of this section) shows the adjustments applied for the DNL and CNEL measures. Noise exposure measures such as Leq, SEL, HNL, DNL, and CNEL are all A-weighted, with units expressed in decibels (dB).

Subjective Response to Noise

The effects of noise on people can be classified into three general categories:

- ◆ Subjective effects of annoyance, nuisance, dissatisfaction.
- ◆ Interference with activities such as speech, sleep, and learning.
- ◆ Physiological effects such as anxiety or hearing loss.

The sound levels associated with community noise usually produce effects only in the first two categories. No universal measure for the subjective effects of noise has been developed, nor does a measure exist for the corresponding human reactions from noise annoyance. This is primarily due to the wide variation in individual attitude regarding the noise source(s).

An important factor in assessing a person's subjective reaction is to compare the new noise environment to the existing noise environment. In general, the more a new noise exceeds the existing, the less acceptable it is. Therefore, a new noise source will be judged more annoying in a quiet area than it would be in a noisier location.

Knowledge of the following relationships is helpful in understanding how changes in noise and noise exposure are perceived.

- ◆ Except under special conditions, a change in sound level of 1 dB cannot be perceived.
- ◆ Outside of the laboratory, a 3-dB change is considered a just-noticeable difference.
- ◆ A change in level of at least 5 dB is required before any noticeable change in community response would be expected.
- ◆ A 10-dB change is subjectively heard as an approximate doubling in loudness and almost always causes an adverse community response.

Combination of Sound Levels Because we perceive both the level and frequency of sound in a non-linear way, the decibel scale is used to describe sound levels. The frequency scale is also measured in logarithmic increments. Decibels, measuring sound energy, combine logarithmically. A doubling of sound energy (for instance, from two identical automobiles passing simultaneously) creates a 3-dB increase (i.e., the resultant sound level is the sound level from a single passing automobile plus 3 dB). The rules for decibel addition used in community noise prediction are:

- ◆ If two sound levels are within 1 dB of each other, their sum is the highest value plus 3 dB.
- ◆ If two sound levels are within 2 to 4 dB of each other, their sum is the highest value plus 2 dB.
- ◆ If two sound levels are within 5 to 9 dB of each other, their sum is the highest value plus 1 dB.
- ◆ If two sound levels are greater than 9 dB apart, the contribution of the lower value is negligible and the sum is simply the higher value.

Figure D-1
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Range of Sound Spectra

Figure D-2
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A-Weighting Network

Figure D-3
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Typical Sound Levels Measured in the Environment and Industry

Figure D-4
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Sound Exposure Level

Figure D-5
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Hourly Noise Levels and Annual Metrics

Glossary of Planning Terms

Acoustical Engineer. An engineer specializing in the measurement and physical properties of sound. In environmental review, the acoustical engineer measures noise impacts of proposed projects and designs measures to reduce those impacts.

Acoustics. The physical qualities of a room or other enclosure (such as size, shape, amount of noise) that determine the audibility and perception of speech and music.

Acre, Gross. Area of a site calculated to the centerline of bounding streets and other public rights-of-way.

Acre, Net. The portion of a site that can actually be built upon. Not included in the net acreage of a site are public or private road rights-of-way, public open space, and flood ways.

Ambient Conditions. Initial background concentration sensed/measured at a monitoring/sampling site, as in air quality or noise.

Aquifer. A natural underground formation that is saturated with water, and from which water can be withdrawn.

Arterial. A vehicular right-of-way whose primary function is to carry through traffic in a continuous route across an urban area while also providing some access to abutting land.

Attainment Area. An area considered to have air quality as good as or better than federal or state air quality standards as defined in the federal Clean Air Act or the California Clean Air Act. An area may be an attainment area for one pollutant and a non-attainment area for others.

Average Daily Traffic (ADT). The number of vehicles passing a given point on a road going in a direction during a 24-hour period.

Bike Lane. A corridor expressly reserved by markings for bicycles, existing on a street or roadway in addition to any lanes for use by motorized vehicles.

Bike Path. A paved route not on a street or roadway, expressly reserved for bicycles. Bike paths may parallel roads but typically are separated from them by landscaping.

Buildout. That level of urban development characterized by full occupancy of all developable sites in accordance with the General Plan; the maximum probable level of development envisioned by the General Plan under specified assumptions about densities and intensities. Buildout does not assume that each parcel is developed to maximum permitted floor area or housing units.

Caltrans. California Department of Transportation.

Capital Improvement Program (CIP). The multi-year scheduling of public physical improvements based on studies of fiscal resources available and the choice of specific improvements to be constructed.

Carbon Monoxide (CO). A colorless, odorless gas, formed by the incomplete combustion of fuels, which is toxic because of its tendency to reduce the oxygen-carrying capacity of the blood.

CMP. Congestion Management Program, Santa Clara County

Community Noise Equivalent Level (CNEL). A 24-hour energy equivalent level derived from a variety of single-noise events, with weighting factors of 5 and 10 dB applied to the evening (7:00 to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) periods, respectively, to allow for the greater sensitivity to noise during those hours. An alternative measure is day-night average sound level (Ldn), the A-weighted average sound level for a given area (measured in decibels) during a 24-hour period with a 10 dB weighting applied to nighttime sound levels. The Ldn is approximately numerically equal to the CNEL for most environmental settings.

Culvert. A drain, ditch or conduit not incorporated in a closed system that carries drainage water under a driveway, roadway, railroad, pedestrian walk or public way. Culverts are often built to channelize streams and as part of flood control systems.

Curb Cut. The opening along the curb line at which point vehicles or other wheeled forms of transportation may enter or leave the roadway. Curb cuts are essential at street corners for wheelchair users.

Day-Night Average Sound Level (Ldn). The A-weighted average sound level in decibels during a 24-hour period with a 10 dB weighing applied to nighttime sound levels (10 p.m. to 7 a.m.). This exposure method is similar to the CNEL, but deletes the evening time period (7 p.m. to 10 p.m.) as a separate factor.

Decibel "A-Weighted" (dBA). The scale for measuring sound in decibels that weights or reduces the effects of low and high frequencies in order to simulate human hearing. See also Decibel.

Decibel (dB). A unit used to express the relative intensity of a sound as it is heard by the human ear. The decibel measuring scale is logarithmic. Zero (0 dB) on the scale is the lowest sound level

that a normal ear can detect under very quiet ("laboratory") conditions and is referred to as the "threshold" of human hearing. On the logarithmic scale, 10 decibels are 10 times more intense, 20 decibels are 100 times more intense, and 30 decibels are 1,000 times more intense than 1 decibel. See also Decibel "A-Weighted."

Density, Gross. The number of dwelling units per gross acre of developable residential land designated on the General Plan Diagram.

Design Capacity. The capacity at which a street, water distribution pipe, pump or reservoir, or a wastewater pipe or treatment plant is intended to operate.

Development Fees. Direct charges or dedications collected on a one-time basis for a service provided or as a condition of approval being granted by the local government.

Endangered Species, California. A native species or sub-species of a bird, mammal, fish, amphibian, reptile, or plant, which is in serious danger of becoming extinct throughout all or a significant portion of its range, due to one or more factors, including loss in habitat, change in habitat, over-exploitation, predation, competition, or disease. The status is determined by the state Department of Fish and Game together with the state Fish and Game Commission.

Endangered Species, Federal. A species which is in danger of extinction throughout all or a significant portion of its range, other than the species of the Class Insecta determined to constitute a pest whose protection under the provisions of the 1973 Endangered Species Act, as amended, would present an overwhelming and overriding risk to humans. The status is determined by the U.S. Fish and Wildlife Service and the Department of the Interior.

Environment. The physical conditions which exist within the area which will be affected by a proposed project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance. The area involved shall be the area in which significant effects would occur either directly or indirectly as a result of the project. The "environment" includes both natural and man-made conditions.

EPA. Environmental Protection Agency.

Equivalent Noise Level (Leq). A single-number representation of the fluctuating sound level in decibels over a specified period of time. It is a sound-energy average of the fluctuating level.

Erosion. The process by which material is removed from the earth's surface (including weathering, dissolution, abrasion, and transportation), most commonly by wind or water.

Fault. A fracture in the earth's crust forming a boundary between rock masses that have shifted. An active fault is a fault that has moved recently and which is likely to again. An inactive fault is a fault which shows no evidence of movement in recent geologic time and no potential for movement in the relatively near future.

Federal Candidate Species, Category 1 (Candidate 1). Species for which the U.S. Fish and Wildlife Service has sufficient biological information to support a proposal to list as Endangered or Threatened.

Federal Candidate Species, Category 2 (Candidate 2). Species for which existing information indicates that these species may warrant listing, but for which substantial biological information to support a proposed rule is lacking.

Federal Flood Insurance. Affordable flood insurance offered by the federal government to property owners whose communities participate in the National Flood Insurance Program.

FEMA. Federal Emergency Management Agency.

Floor Area, Gross. The total horizontal area in square feet of all floors within the exterior walls of a building, but not including the area of unroofed inner courts or shaft enclosures.

FIRM. Flood Insurance Rate Map.

Floor Area Ratio (FAR). The ratio between gross floor area of structures on a site and gross site area. Thus, a two-story building covering 50 percent of its site would have a FAR of 1.0.

Groundwater. Water under the earth's surface, often confined to aquifers capable of supplying wells and springs.

Habitat. The natural environment of a plant or animal.

Hazardous Material. A material or form of energy that could cause injury or illness to persons, livestock, or the natural environment.

Hazardous Waste. Waste which requires special handling to avoid illness or injury to persons or damage to property. Includes, but is not limited to, inorganic mineral acids of sulfur, fluorine, chlorine, nitrogen, chromium, phosphorous, selenium and arsenic and their common salts; lead, nickel, and mercury and their inorganic salts or metallo-organic derivatives; coal, tar acids such as phenol and cresols and their salts; and all radioactive materials.

Household. Person or persons living in one dwelling unit.

Housing Unit, Single-Family Detached. Single family units that are detached from any other house with open space on all four sides.

Housing Unit, Single-Family Attached. Single family units that are attached to other units with adjoining walls extending from ground to roof that separate it from other adjoining structures and form a property line. Each unit has its own heating system.

Housing Unit, Multi-family. Units with two or more housing units in one structure.

Indirect Source. Any structure or installation which attracts an activity which creates emissions of pollutants. For example, a major employment center, a shopping center, an airport, or a stadium can all be considered to be indirect sources.

Infill. The development of new housing or other buildings on scattered vacant lots in a built-up area or on new building parcels created by permitted lot splits.

Infrastructure. Permanent utility installations, including roads, water supply lines, sewage collection pipes, and power and communications lines.

Intersection Capacity. The maximum number of vehicles that has a reasonable expectation of passing through an intersection in one direction during a given time period under prevailing roadway and traffic conditions.

Jobs-Housing Balance. The jobs/housing ratio divides the number of jobs in an area by the number of employed residents. A ratio of 1.0 typically indicates a balance. A ratio greater than 1.0 indicates a net in-commute; less than 1.0 indicates a net out-commute.

Landslide. The downslope movement of soil and rock.

Land Use. The purpose or activity for which a piece of land or its buildings is designed, arranged, or intended, or for which it is occupied or maintained.

Level of Service (LOS). The different operating conditions which occur in a lane or roadway when accommodating various traffic volumes. A qualitative measure of the effect of traffic flow factors such as special travel time, interruptions, freedom to maneuver, driver comfort, and convenience, and indirectly, safety and operating cost. Levels of service are usually described by a letter rating system of A through F, with LOS A indicating stable traffic flow with little or no delays and LOS F indicating excessive delays and jammed traffic conditions.

Liquefaction. A sudden large decrease in the shearing resistance of a cohesionless soil, caused by a collapse of the structure by shock or strain, and associated with a sudden but temporary increase of the pore fluid pressure.

Maximum Credible Earthquake. The largest Richter magnitude (M) seismic event that appears to be reasonably capable of occurring under the conditions of the presently known geological framework.

Mitigation Measure. Action taken to reduce or eliminate environmental impacts. Mitigation includes: avoiding the impact altogether by not taking a certain action or parts of an action; minimizing impacts by limiting the degree or magnitude of the action and its implementation; rectifying the impact by repairing, rehabilitating, or restoring the affected environment; reducing or eliminating the impact over time by preservation and maintenance during the life of the action; and compensating for the impact by replacing or providing substitute resources or environments.

Mobile Home. A structure, transportable in one or more sections which is built on a permanent chassis and designed to be used as a dwelling unit, with or without a permanent foundation when connected to the required utilities.

Mobile Sources. A source of air pollution that is related to transportation vehicles, such as automobiles or buses.

Noise Contour(s). Isolines (a line on a map or chart along which there is a constant value) representing noise, measured in decibels. See also Community Noise Equivalent Level.

Non-point Source. A pollutant source introduced from dispersed points and lacking a single, identifiable origin. Examples include automobile emissions or urban run-off.

NPDES. National Pollution Discharge Elimination System.

100-Year Flood. That flood event which has a one percent chance of occurrence in any one year.

Open Space. Any parcel or area of land or water which is essentially unimproved and devoted to an open-space use as defined in the General Plan or designated on a local, regional, or state open-space plan as one of the four types of open space defined by state planning law.

Ozone. A compound consisting of three oxygen atoms, that is the primary constituent of smog. It is formed through chemical reactions in the atmosphere involving volatile organic compounds, nitrogen oxides, and sunlight. Ozone can initiate damage to the lungs as well as damage to trees, crops, and materials. There is a natural layer of ozone in the upper atmosphere which shields the earth from harmful ultraviolet radiation.

PM-10. The current standard for measuring the amount of solid or liquid matter suspended in the atmosphere ("particulate matter including dust"). Refers to the amount of particulate matter over 10 micrometers in diameter. The smaller PM-10 particles penetrate to the deeper portions of the lung, affecting sensitive population groups such as children and people with respiratory diseases.

Peak Hour Traffic. The number of vehicles passing over a designated section of a street during the busiest one-hour period during a 24-hour period.

Percent Slope. A common way of expressing the steepness of the slope of terrain, which is derived by dividing the change in elevation by the horizontal distance traversed. An increase of 20 feet elevation over a 100 foot distance is a 20 percent slope.

Planning Area. The City and the land outside its boundaries that bear relation to its planning.

Point Source. A source of pollutants which may be traced to a discrete point of emission.

Precursor. A chemical compound that leads to the formation of a pollutant. Reactive organic gases and nitrogen oxides are precursors of photochemical oxidants.

Rare Species. A condition in which a species or subspecies, although not currently threatened with extinction, exists in such small numbers throughout its range that it may be endangered if the quality of its environment worsens.

Response Time. The amount of time for an emergency services response, measured from the time of the distress call until arrival on the scene.

Richter Scale. A logarithmic scale developed in 1935/36 by Dr. Charles F. Richter and Dr. Beno Gutenberg to measure earthquake magnitude by the amount of energy released, as opposed to earthquake intensity as determined by local effects on people, structures, and earth materials.

Right-of-Way. A strip of land acquired by reservation, dedication, forced dedication, prescription or condemnation, and intended to be occupied or actually occupied by a road, crosswalk, railroad, electric transmission lines, oil or gas pipeline, water line, sanitary storm sewer or other similar use.

Riparian. Pertaining to the bank of a natural course of water, whether seasonal or annual. Riparian habitat is defined by the surrounding vegetation or presence of known wildlife movement pathways; it borders or surrounds a waterway.

Sedimentation. Process by which material suspended in water is deposited in a body of water.

SMARA. California Surface Mining and Reclamation Act of 1975.

Solid Waste. Unwanted or discarded material, including garbage, with insufficient liquid content to be free flowing.

Source Separation. A process in which solid waste materials are produced as an autonomous waste product which are stored separately at the site of generation, or are physically separated from all other solid wastes into recyclable, compostable, or other fractions at the site of generation.

Sphere of Influence (SOI). The ultimate service area of the City of Milpitas as established by Santa Clara County LAFCO.

Stationary Source. A source of air pollution that is not mobile, such as a heating plant or an exhaust stack from a laboratory.

Subdivision. The division of a lot, tract, or parcel of land into two or more lots, tracts, parcels, or other divisions of land for sale, development, or lease.

Threatened Species, California. A species of animal or plant is endangered when its survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, over-exploitation, predation, competition, disease, or other factors: or when although not presently threatened with extinction, the species exists in such small numbers that it may become endangered if its environment worsens. A species of animal or plant shall be

presumed to be rare or endangered as it is listed in: Sections 670.2 or 670.5, Title 14, California Code of Regulations; or Title 50, Code of Federal Regulations Sections 17.11 or 17.12 pursuant to the Federal Endangered Species Act as rare, threatened, or endangered.

Threatened Species, Federal. A species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Trip Generation. The number of vehicle trip ends associated with (i.e., produced by) a particular land use or traffic study site. A trip end is defined as a single vehicle movement. Roundtrips consist of two trip ends.

Transportation Systems Management (TSM). Measures designed to reduce peak-period auto traffic by making a more efficient use of existing resources, and emphasizing transit, ridesharing, and non-automobile alternatives.

Vehicle Miles Traveled (VMT). A measure of both the volume and extent of motor vehicle operation; the total number of vehicle miles travelled within a specified geographical area (whether the entire country or a smaller area) over a given period of time.

Volume-to-Capacity Ratio (V/C). In reference to public services or transportation, ratio of peak hour use to capacity.

Waste Stream. All solid, semi-solid and liquid wastes including garbage, refuse, paper, rubbish, ashes, industrial wastes, demolition and construction wastes, abandoned vehicles and parts thereof, discarded home and industrial appliances, manure, vegetable or animal solid and semisolid wastes, and other paper, rubbish, ashes, industrial wastes, demolition and construction wastes, abandoned vehicles and parts thereof, discarded home and industrial appliances, manure, vegetable or animal solid and semisolid wastes, and other discarded solid and semisolid wastes.

Wetlands.> An area at least periodically wet or flooded; where the water table stands at or above the land surface (bogs and marshes). Also those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

Wildlife Corridors. A natural corridor, such as an undeveloped ravine, that is frequently used by wildlife to travel from one area to another.

Xeric. Vegetation requiring only a small amount of moisture.

Zoning District. A specifically delineated area on a zoning map within which regulations and requirements uniformly govern the use, placement, spacing, and size of buildings, open spaces, and other facilities.

Zoning Ordinance. The City ordinance which divides Milpitas into districts and establishes regulations governing the use, placement, spacing, and size of buildings, open spaces, and other facilities.

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